

University News

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Bharati Vidyapeeth Deemed University **—A Profile**

K.G. DESHMUKH

Universities and Higher Education **in the 21st Century**

GOPAL SAKSENA

Distance Education in India **—Needing Innovative Software**

VIBHU

Evolution of Home Science in India

HAR SWARUP SINGH

State of India's Agrarian Economy **—Sir Chhotu Ram Memorial Lecture**

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Association of Indian Universities



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Applications can also be had in person from the Directorate of Distance Education and the following Study Centres and Information Centres on payment of Rs.50/-.

Last date for issue of application form is extended upto 24.08.1998

Last date for receipt of filled-in application is extended upto 31.08.1998

All the Study Centres and Information Centres except that at Annamalai Nagar will remain closed on all Tuesdays, Second Mondays and other public holidays.

SPOT SELECTION: Spot selection for admission to the preparatory course is made through all our Study Centres for all courses. Those who passed the Entrance Test during 1995-96, 1996-97 & 1997-98 but could not join the courses are also eligible for admission without undergoing the Entrance Test this year.

Applicants are advised to write to the Directorate individually for application forms and admission. The Directorate has no agents. Spurious applications would be summarily rejected

PLACE Annamalai Nagar
DATE 29.06.1998

Dr. P.V. VAIDYANATHAN
DIRECTOR I/C

STUDY CENTRES: (1) **CHENNAI:** 19, Rukmani Lakshmi Pathi Road, Egmore, Chennai - 600 008 (☎ 8555010); (2)* 27, North Park Street, Venkatapuram, Ambattur, Chennai - 600 053, (3) 138, G S T Road, (Opp to Vein Theatre), Chrompet, Chennai - 600 044, (4) **TIRUCHI:** 32-B, 7th Cross, Thillai Nagar, Tiruchi - 620 018 (☎ 760950), (5) **SALEM:** 15, Dr Subbarayan Street, Salem - 636 001 (Near Palace Theatre) (☎ 419660), (6)* **NAGERCOIL:** 316-E, K P Road, Nagercoil - 629 003 (☎ 30561), (7) **TIRUNELVELI:** ROCHE Buildings, No 1-C, High Ground Road, Palayamkottai, Tirunelveli - 627 002 (☎ 572923), (8) **VELLORE:** 4, Thiagarajapuram, Vellore -

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**Editor :
SUTINDER SINGH**

Bharati Vidyapeeth Deemed University A Profile

Bharati Vidyapeeth Deemed University, Pune, hosts the 254th meeting of the Standing Committee of the Association of Indian Universities on July 18, 1998.

Bharati Vidyapeeth Deemed University celebrated its 2nd anniversary on 26th April, 1998. It was on this day, two years ago, the Government of India on the recommendation of University Grants Commission conferred the status of Deemed University on the 12 units of Bharati Vidyapeeth. Bharati Vidyapeeth which is the parent body of Bharati Vidyapeeth Deemed University, deserves a more detailed introduction.

Bharati Vidyapeeth

Bharati Vidyapeeth was established in 1964 by Dr. Patangrao Kadam who is also the Chancellor of Bharati Vidyapeeth Deemed University. Initially this organisation was started for conducting certificate examinations in the subjects of Mathematics and English for the school going children with a view to generate interest in their minds about these subjects. Now over a period of 34 years or so this Institution has grown up into a very big educational organisation which has done pioneering work in the field of education in Maharashtra. Today there are more than 100 educational units of Bharati Vidyapeeth which include pre-primary, primary and secondary schools, junior colleges as well as senior colleges, and colleges giving professional education. Among the colleges and institutes of higher education, which Bharati Vidyapeeth conducts, are Arts, Science, Commerce Colleges, Institutes of Management Studies, Medical and Dental Colleges, Colleges of Ayurved, Homoeopathy and Pharmacy, Nursing, Architecture, Education, Institute of Hotel Management and Environment etc. Bharati Vidyapeeth has campuses in Pune, Navi Mumbai, New Delhi, Kolhapur, Solapur, Sangli, Karad, Panchagani, Jawhar and a few other places. The credit of all sided and qualitative expansion of Bharati Vidyapeeth goes to the foresight, hardwork and commitment of its founder, Dr. Patangrao Kadam. Social change through dynamic education is the motto of Bharati Vidyapeeth which reflects commitment of Bharati Vidyapeeth both to the development of society and education. Three cardinal principles in the underlying ideology of Bharati Vidyapeeth as expounded by its founder are :

1. To make available to the younger generations the state of art knowledge and training;
2. To make education available to all those who are desirous of taking it particularly to the people from socially and economically disadvantaged groups, like the rural and tribal people and women; and
3. To make educational institutions, as far as possible, financially self reliant.

The institutions of Bharati Vidyapeeth are housed in spacious and

beautiful buildings and possess good infrastructural facilities. These institutions cater to the needs of students of all ages and with different inclinations. Bharati Vidyapeeth runs schools for tribal people, an industrial training institute mainly for rural girls alongwith a totally free hostel for them. As its sister concerns Bharati Vidyapeeth has large cooperative stores, a bank, a spinning mill, a poultry farm and the like. Twenty per cent of profit of these concerns goes to the coffers of Bharati Vidyapeeth for educational purposes.

Bharati Vidyapeeth Deemed University

The following institutions are the constituent units of Bharati Vidyapeeth Deemed University.

1. Bharati Vidyapeeth's Medical College, Pune
2. Bharati Vidyapeeth's Dental College & Hospital, Pune
3. Bharati Vidyapeeth's College of Ayurved, Pune
4. Bharati Vidyapeeth's Homoeopathic Medical College, Pune
5. Bharati Vidyapeeth's College of Nursing, Pune
6. Yashwantrao Mohite College of Arts, Science and Commerce, Pune
7. New Law College, Pune
8. Social Sciences Centre (M.S.W.), Pune
9. Yashwantrao Chavan Institute of Social Science Studies & Research, Pune
10. Research and Development Centre in Applied Chemistry (POLYMER), Pune
11. College of Physical Education, Pune and
12. Bharati Vidyapeeth's Institute of Environment Education & Research, Pune.

They are located in two separate campuses in the city of Pune and all of them are housed in spacious and beautiful buildings. Before these institutions became a part of this University the following courses were being taught in them.

MBBS, DMLT, BDS, BAMS, BHMS, B.Ed. (Physical), B.A., B.Com., B.Sc., M.Sc., M.Com., MSW, LL.B. Diploma in Taxation Laws, Diploma in Labour Laws, B.Sc. (Nursing) etc.

New Courses Introduced

After these institutions became constituent units of the Deemed University, the following new degree and diploma courses were introduced.

1. M.D. (Obst. Gynac.)

2. M.D. (Medicine)
3. M.S. (General Surgery)
4. Bachelor of Computer Science (B.C.S.)
5. Bachelor of Library and Information Science (B.Lib.)
6. Bachelor of Clinical Optometry (B.C. Opt.)
7. DNB
8. LL.M.
9. Master of Business Studies
10. Diploma in Marketing
11. Diploma in Banking
12. Diploma in Human Relations
13. Diploma in Environment Laws
14. Diploma in Woman Studies & Gender Justice
15. Diploma in Environment Education
16. Diploma in Environment Management
17. Diploma in Social Work Counselling
18. Diploma in Professional Social Work
19. Diploma in International Business

Revision of Courses

The University has undertaken the task of revision of syllabi of B.A., B.Com. and B.Sc. degrees. The new syllabi of various courses have been prepared with the help of members of faculty of the constituent units. More than hundred experts from various other universities and academic institutions were also involved in this work. In the revised syllabi there is more emphasis on application aspect of the subject. Twin goals kept in view while framing the new syllabi were :

- (i) to increase the employability of the students, and
- (ii) if possible, in some cases, training them for self employment.

These new syllabi have been appreciated both by the students and the experts in the field. One innovative activity has been undertaken in this area. During the last year the University has introduced two part time Diploma courses for the students of commerce faculty. These courses are so designed that a student may opt for one of them while working for his B.Com. degree. He can get his diploma either in Marketing Management or Diploma in Banking simultaneously alongwith his B.Com. degree. The University intends to start such allied diplomas in other branches also in the coming year. The Univer-

sity also has revised the course structure of MSW, B.Sc. (Nursing) and LL.B.

Ph.D. Programme

One of the innovative academic activities of the University is its Ph.D. programme. The University has introduced Ph.D. programme in certain subjects in Social Sciences, Humanities, Natural and Physical Sciences. Like any other university, the Ph.D. programme in these subjects is available to those who hold Master's degree in the relevant subject. Besides, there is a provision under which those who have Bachelor's degree with Second Class and have passed examinations conducted by statutory bodies like UPSC or State Public Service Commission etc and those who have held senior positions for a period of atleast 10 years can also join the Ph.D. programme. Such a candidate will be required to fulfil other requirements such as giving a certain number of presentations etc. The Ph.D. programme in Law is also available to those holding Bachelor's degree in Law and having experience of legal practice at the district level courts, for atleast 15 years.

Research Activities

The University encourages its faculty members to undertake research activities. Bharati Vidyapeeth which is the parent organisation of the University has given Rs. 5 lakh as seed money to create research fund from which financial assistance for research would be given to the teachers. Several teachers are presently working on different research projects. The University has established a research society in the Medical College and this society encourages research activities among the faculty members from that college.

Extension Work

Bharati Vidyapeeth is an institution charged with a deep sense of social commitment. Our all the constituent units are in one way or the other involved in extension activities. These activities include spreading of scientific knowledge and techniques among common people, rendering them various kinds of services, creating in their minds a newer consciousness and the like. Our colleges involved in medical education organise regularly health camps in rural areas, wherein patients from the lower socio-economic strata are examined, treated and given medical advice free of cost. Our Centre of Social Sciences wherein MSW course is conducted, is a throbbing centre of extension activities. The members of the faculty and the students of this centre undertake on a regular basis various kinds of extension activities.

Institute of Environment Education and Research works relentlessly for training the people on environmental issues. The Institute has a programme for creating awareness in the minds of school children about bio-diversity, protection of environment etc. Besides the NSS units of various colleges are also involved in different kinds of extension activities.

University Journal

Bharati Vidyapeeth Deemed University would be one of very few universities in India which have brought out their research journals immediately after their inception. The University has so far published two volumes of its research journal namely *Bharati Vidyapeeth Deemed University Research Journal*. The University has received letters of appreciation from the academics of other universities about this activity.

International Students

Pune has always been an attraction as educational centre for students from various countries. Because of the facilities provided to the international students in this University and the friendly atmosphere in our colleges, a large number of foreign students have joined our various educational units. The University has nominated a faculty member as International Student Advisor who looks after the welfare of international students.

At present majority of universities in India are affiliating universities and they are overburdened with the responsibility of caring for unreasonably large number of affiliating colleges and institutions. Many universities have to pay a price for their unmanageably large size in terms of red tapism, academic self complacency and lack of dynamism. Efforts have been made to find out alternatives to the affiliating university system by the policy makers without much success. A multidisciplinary Deemed University having such colleges as those of Arts, Science, Commerce, Physical Education and Law etc. can be a very useful alternative to such affiliating university. Because of its smallness of size and not so elaborate decision making structure, such a university can be more innovative, flexible, more student oriented and caring. For example it could be possible for this University to revise its course structures of B.A., B.Com., B.Sc., B.Ed. (Physical), MSW etc within a short span of time because of smallness of its size. Our efforts at this University have been to make the University a model which can be emulated by others in future.

Universities and Higher Education in the 21st Century

K.G. Deshmukh*

We are celebrating the golden jubilee of Indian independence, and after two years, we will be entering the 21st century. We must look into the early part of the 21st century for the nature and functions of the university as an institutions and system.

University System in India

Ancient India had renowned centres of learning at Nalanda, Takshashila, Vikramshila, and Vallabh. These were essentially centres of religion and philosophy, with their unique traditions and values. Indian universities, today, have their origin in European models. However, after Indian Independence, the concept of universities catering mainly to elite class has changed, and they have become more responsible to society at large. It has undergone a radical transformation from an elite system to a mass system attempting to meet the aspirations of a large and vibrant democracy.

In 1950, there were 27 universities, 750 colleges, 12,000 teachers, and 2,50,000 students. At present there are 240 universities, 9,000 colleges, 3,00,000 teachers, and 60 lakhs students. In absolute numbers, this seems very large, but the enrolment hardly covers 6% of the relevant age group of 17-24 yrs. With the universalisation of elementary education and the corresponding growth in secondary education, the demand on university education for greater access, would increase still further.

Besides the growth of students and universities, the range of disciplines and institutions in professional education, like the IITs, IIMs, institutions for engineering education, agricultural universities etc have greatly increased. With the liberalisation of Indian economy, the process of liberalisation and privatisation, have also started in the field of higher education. More so in the professional education, including the management education, where institutes have been supported by private entrepreneurs and a few of them by industries. Some of these institutes are trying to have linkages with universities from developed countries.

*Former Vice Chancellor, Amravati University, C-703, Priyadarshini C.H.S., 62, Bhawani Shankar Road, Dadar (W), Mumbai-400 028

Policy Thrust in Higher Education

The country today, is in the midst of a major social, economic and technological change. This process will affect not only the market economy of the country, but the whole system of higher education, which has to prepare its graduates, for participation in the social and economic development of the country, and the type of cultural environment it will need to grow. Information technology is further contributing to this change, and will have a major impact on the structure, management and the mode of delivery of the education system. The National Policy on Education 1986, (amended in 1992), states: 'Higher education provides people with an opportunity to reflect on the critical social, economic, cultural, moral and spiritual issues facing humanity. It contributes to the national development through dissemination of specialised knowledge and skills. It is therefore a crucial factor for survival. Being at the apex of the education pyramid, it has also a key role in producing teachers for the education system. (NPE 1992, p 24).

The University education system should therefore be at the centrestage. If we wish to achieve our national goals of social justice, education must get its context and relevance from these goals. Education must be incorporated in the national planning to fulfil these goals.

In 1947, Jawaharlal Nehru, then prime minister of India, while delivering the convocation address at the University of Allahabad, said: "it is for a university... to lay stress on... those standards of thought and action which makes an individual and nation." He added: "a university stands for humanism, tolerance, for reason, for progress, for the adventure of ideas, and for the search of truth. It stands for the onward march of the human race towards even higher objectives."

In the field of education, there is a tremendous explosion of knowledge, but we have not succeeded in uniformly meeting our needs for achieving world class standards. Quality education is possible when it aims at the full development of the learner—the mind, the heart and the ability to act, i.e. thinking, feeling and doing. However, in our system of higher education, one of the major problems is our narrow

focus on knowledge, which is not necessarily integrated or upto date, and the exclusion of development of skills/attitudes and values in the learner. Another problem is the lack of stated mission for the institution, a vision of what it wishes to achieve, so that, all its activities and sub-systems, of teachers and students strive towards a common goal in this joint effort.

Today our system is such that we add courses because they are available in some other universities without examining their relevance to local means. Curriculum development is at its worst. It lacks an orientation for adult life role of a worker, a citizen and a member of a family he or she will form and support.

Our aim is not to produce a large number of educated unemployed, but to prepare students for a career. The education system needs to be reoriented. A majority (88%), of the students, terminate at the undergraduate level. Mainly these students are in humanities and social sciences (38%), commerce (22%), and life sciences (21%). The problem is how this large number of students (81%), achieve atleast a minimum competence for moving into the employed market or in self employment. The need, therefore, is to make greatest impact on relevance of education to social needs at that level where bulk of our students graduate.

The focus should be the development of the university on the areas of: 1. Relevance and quality of education, 2. Access and equality, 3. Management of education, and 4. Finance.

1. Relevance and Quality of Education

Career development for students in both undergraduate and postgraduate studies should be a major focus. Starting of vocational, application oriented courses and modifying existing traditional courses should be the major thrust. The focus has to be on making theory and practice an integral part of the subject. Atleast a beginning can be made by identifying one college in a district for interaction between educational institution with industry, agriculture, and rural development.

Cafeterial approach in curriculum structural arrangements should be followed. Each course should have modules with terminal points. Interdisciplinary emphasis such as in women's studies, water management studies, environmental studies, etc has to be given by involving humanities social sciences, and science and technology departments. The quality of postgraduate education has to be ensured by intro-

ducing project work and continuous internal assessment.

2 Access and Equity

Due to regional imbalance, the university should pay more attention to the colleges in backward or tribal and rural areas, to bring them in the mainstream of university education. Special programmes for these areas must be developed, looking into their needs, along with the programmes for minorities, women, and reserved categories.

Looking at the social changes taking place in our society, university must develop, giving more emphasis on non-degree programmes, such as continuing education for those who wish to return to the university to update their knowledge or learn new skills, and also extension programmes for those whom the university would not ordinarily serve.

3. Management of Education

Effectiveness and efficiency are required for good management. The degree of flexibility of the institution, social and economic, is vital to its survival in changing context. In deciding the management pattern of the university, it should be recognised that the academic administration is very different from that in the government or in the corporate sector. It should be based on the principle of participation of prominent academicians. It must have inbuilt flexibility to adapt itself quickly to the changing needs of the country and the region it serves, and carry out innovations and experiments. There should be academic, administrative and financial decentralisation. The autonomy to the departments of the university, and autonomy to the well managed colleges, must be given, so as to carry out new experimentation. However such departments/colleges should be made accountable. Increased use of information technology in management of the university is required.

To have better coordination and interaction between the university and the state government, other universities, UGC, Chancellor, and HRD ministry at the centre, the State Council of Higher Education must be established. The Maharashtra Universities Act 1994, has provided for the formation of the council with the Chief Minister of state as the chairman, and nearly 40 members. Such a large body is ineffective in carrying out their duties. The pattern suggested by the UGC, should have been followed.

4. Funding of the University

The central government is spending less and less on higher education. For the state universities, the

state's share is also not sufficient to carry out innovative programmes to have quality education. The university should, therefore, have self supporting programmes. It should develop a differential fee structure based on the nature of the course and socio-economic background of the students. There should be proper university-industry collaboration for training and research support, consultancy by teachers and renting of services to outside agencies by the university.

Forces of Change

As a nation we have made great strides from the concept of higher education for a few to a higher education for the masses. Every student will need to learn some skills in life. We are moving towards a concept of continuing education, life long education, education for all, and learning without frontiers etc.

With the rapid change in political scenario, economy, management, marketing, bio-technology etc, problems of irrelevance and obsolescence in different spheres are fast approaching. Satellite communication is accelerating the process of globalising. This obviously requires an education system of a different type. Learners will be of all ages, with different backgrounds and experiences. They will have different objectives and their choice would depend on the situation faced by them. This would require a study at their own pace, convenience and location.

The world over, the education system is increasingly responding by devising appropriate curriculum. The prevailing model of higher education requiring selective learning over fixed period of time is being replaced by life long learning for all. This has become necessary because of changing nature of jobs, which now require continuous updating and renewal of knowledge and skills.

There is a paradigm shift from instruction-centred college/university model to a learner-centred model based on student initiative and access to learning resources. With the fast changing developments in communication technology, distance learning has emerged as an effective and viable medium for imparting knowledge. These developments have to be kept in mind while formulating our programmes.

In the formal system, there has to be a flexible cafeteria approach while offering programmes. Students should be given the opportunity of studying at their own pace. The courses should be continuously updated, and new technologies have to be used. There has to be networking between institutions, and formal and non-formal systems need to emerge.

The open and distance education system is already well established with IGNOU as the apex body currently covering seven state open universities. In Maharashtra, YCMOU, at Nasik, is catering for the open system. Distance education can be described as the 'structured learning where student and teacher are separated in space'. The communication between the two is through modern means of communication. The system offers educational programmes that are specially designed to meet the needs and aspirations of the learner.

With a radical change in the teaching-learning process, institutional structures and functions will undergo radical changes. The concept of the university itself needs redefinition in the emerging scenario. Education is becoming a lifelong process, and will be linked with living and working. In the recent UNESCO report, 4 important components of education are identified as: Learning to know, Learning to do, Learning to live together, and Learning to be.

It is the continuing activity of any autonomous educational institution to change and reformat the curriculum to suit emerging needs. The future networked system would need completely different courses with more flexibility and modularity; and each module catering to the various competencies needed by the learner. The teacher in the university will have to respond to such demands, in the near future. This requires bold, visionary and innovative leadership in the university system, to march ahead on the path of globalisation in the emerging education model. Bill Gates in his book *The road ahead* said "We are all beginning another great journey. We are not sure where this one will lead us either". Let us be 'all partners' in this process and face the 21st century.

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TO OUR CONTRIBUTORS

Contributors are expected to submit only original articles for publication in the *University News*. If an article is found to be plagiarised, it will be the sole responsibility of the contributor to face legal action, if any.

Distance Education in India Needing Innovative Software

Gopal Saksena*

Distance Education is no more a matter of debate. Its relevance and efficacy have come to be recognised world-wide. It is cost effective; it takes care of those who, for different compulsions or constraints, are not lucky enough to get into conventional temples of learning and above all, it is flexible and capable of meeting the individual needs and preferences of its innumerable beneficiaries.

Distance education in India has been greatly helped by the emerging technologies, for accelerating its pace, widening its reach and providing it with a glitter of glamour. According to Prof. G. Ram Reddy, the pioneer of distance education in India, the modern educational technologies *"have triggered a revolutionary process"*. Elaborating this he observed :

"For centuries, education has been the monopoly of the privileged few; a few were in, but many were out — just as in the economic sphere, in education too there has been a great divide — the gap between the haves and have-nots..... Distance education is one significant development that the new technologies of education have made possible."

This has become now much more relevant to India because of India's continental dimensions, countless diversities and massive population. Radio and television networks, especially after the advent of satellite era, have succeeded in virtually taking education to the doorsteps of our people. All barriers of remoteness, isolation, deprivation and distances could thus be countered and conquered.

The process of teaching and learning is basically a process of communication between the teacher and the learner. But communication in the context of distance education is not a simple exercise of 'sending' or 'receiving' a message. To be effective and successful, it has to be a combination of human creativity and technological sophistication. This may be evident from any audio or video programme put on the air. Unless it is different from many others, crowding the channels today, it might be skipped.

Indian Scenario

The vast media exposure, the spirit of democra-

**Director, Commonwealth Educational Media Centre for Asia (CEMCA), 52, Tughlakabad Institutional Area, New Delhi-110 062.*

tisation overtaking common people and the new hopes and aspirations getting generated in youth have led to the phenomenal growth in the field of higher education in our country. The number of colleges has gone up from 370 in 1950 to about 9000 now. Likewise, the number of universities has shot up from 19 to 240. But even this increase is inadequate to meet the growth in demand. Fortunately, the open universities have come to the rescue of the society in meeting the twin-challenge of fulfilling the popular aspirations to get educated and serving the national goal to educate them. The National Policy on Education (NPE), 1986, also highlighted the role of open learning and distance education for the democratisation of education in the country. NPE categorically stated that the future thrusts would be in the direction of distance and open learning systems.

At present, there are seven open universities in India, offering numerous degree and post-degree and diplomas courses not only in humanities but also in technical and professional disciplines. Besides a number of correspondence courses institutes have been functioning. The National Open School also serves as an apex body at the school level for the country as a whole.

In India, both All India Radio and Doordarshan dedicated themselves to serve primarily the educational and informational needs of society. Of late, the National Television authority, Doordarshan, has allotted some time for higher education programmes. These are being coordinated by the UGC, with a network of programme production facilities in select universities. The basic objective of this endeavour has been to remove the obsolescence in textbooks and to update, both students and teachers through distance education. The Indira Gandhi National Open University has been allotted a limited time of 90 minutes on Doordarshan National Network for telecasting educational programmes. Down South, the Madurai Kamaraj University has also been able to get some time from the Radio station, in the state of Tamil Nadu for broadcasting programmes for its students registered under the distance education scheme.

Of course, most of the universities, that started a number of teaching programmes through distance education, were largely dependent on printed material. And, to say the least, it had not adequately served the diverse needs. Some universities have established

audio-visual production facilities for distance education. But again, these facilities are being utilised by only a few because not many universities have been able to get any access to broadcasting.

Commercial Considerations

With the proliferation of television channels in India, a fierce battle in the skies has been going on among different competitors to woo the viewers. Naturally, viewers would tune-in only the best and the one they consider to be the best. Those days are gone when they could be taken for granted and served with anything and everything. Besides having a wide variety of choice, they now have the grey cells to distinguish between a good and a bad programme. It is, therefore, in the interest of competitors themselves not to soft-paddle their software.

But it has resulted in the excessive commercialisation of electronic media. For, the private networks have to sustain their service on commercial earnings. They have to rely on entertainment-oriented shows, which attract more ads than educational or informational programmes. As a consequence, less and less time is now devoted to educational programmes. The proposed educational channel of Doordarshan could not be introduced so far, essentially because of the financial constraints; or say where to get the software from? Elizabeth Smith, the Secretary-General of the Commonwealth Broadcasting Association in her keynote address, delivered at the Consortium of Educational Communication, New Delhi in January 1997, expressed her grave concern over the growing commercialisation of radio and TV channels. She observed :

"Now in some areas, there is a rush to privatize and commercialize broadcasting. In areas where there is a great shortage of income from advertising, this is likely to mean a drying up of funds for educational broadcasting. Advertisers may fund a cheap mass-audience game show but would not be able to fund a low audience and expensive educational programme. The trend towards commercialization is nevertheless so strong that it is unstoppable."

What is the way out? Possibly, the government may have to bring in the regulation to make it compulsory for individual producers and other networks to contribute educational programmes for telecast as part of their programmes. This has been done in the UK. There, the commercial broadcasting organizations "are not supplying educational material because it is central to their core function but because they are required to do so by regulation — it is a condition of their licence".

The only exception is the 'Discovery Channel'. But just see the quality of their programmes — both from the point of view of production values and technical slickness. In contrast, Indian producers are not quality conscious. They are simply keen on making a fast buck. The 'Discovery' channel should be a clear indicator that the development of innovative software is so vital in respect of educational programmes.

No 'Push-Button' Approach

Good software does not come off by the push of a button. It needs tremendous planning effort, creativity, resources and technological support. It is also essential that considerable lead time is given for the production of software before launching a service. Unfortunately, it has generally not happened in India. The greatest defaulter in this respect has been Doordarshan itself. It just announces a new launch, without caring for the software needed to fill the airtime. Eventually, it succumbs to an over dose of film-based programmes or to the trap of sponsors.

Satellite Instructional Television Experiment (SITE) has, however, been an exception to the rule. For, good lead time was given to Doordarshan for the production of the programmes needed for the new service. But even in the case of 'SITE' the bulk of resources were spent on hardware. According to a report, eighty two per cent of money allotted for SITE went for hardware, only 9 per cent was spent on software production and 3 per cent spent on evaluation. This, by no means, was an isolated case. The unhealthy trend continues to-date. H. Beare in a paper 'Education by Satellite : Australian Possibilities' observed :

"The impact of TV comes not so much from hardware (the technology) but from the software (the program). There is quite clearly a temptation to build a costly machine and then have no money left over with which to drive it."

In order to meet the new challenges, arising out of new changes coming up on the media horizon, and for the success of distance education, we have to evolve new strategies, especially in respect of software. Prof. Gajaraj Dhanarajan, President, Commonwealth of Learning (COL), during his visit to India in February 1998, made some radical observations. He stressed the need to change the nature and structure of teaching institutions to go well with the challenges of the 21st century. He also stated that there is a threat to the century-old system of education mainly because the system is now obsolete. He called for the reorientation of the teachers and pedagogic concepts that are presently applied to vocation.

Besides, the new strategies should take care of the following problems and perspectives :

- (a) *Coordination and fuller utilisation of the existing electronic media resources* : The existing infrastructural and technical facilities, wherever available, are generally left under-utilised. A realistic rate card should be drawn by them to attract other institutions/organisations to make use of the spare facilities for the latter's productions.
- (b) *Effective exchange of programmes on a regular basis* : Possibly, a database of programmes need be prepared and circulated to draw material from existing resources. An exhaustive database of about 9000 programmes, for instance, has already been prepared by the Commonwealth Educational Media Centre for Asia, New Delhi (CEMCA) and circulated to all open universities.
- (c) *Facilities for transfer of material, dubbing, subtitling etc* may be introduced for all to benefit, especially because of our numerous diversities.
- (d) *Collaboration for research and feedback studies* may be encouraged as we are abysmally poor in this respect.
- (e) *Professional training for trainers and others* : The

professional has thus far been the most neglected area in India. Training is needed supplemented by refresher courses to sharpen their skills and professional sensibilities.

- (f) *Selection of Media and need for a 'Mixed Media' approach* : Not all subjects can be covered on all the media available. A judicious selection of the media and that of the topics to be covered on each would be useful.
- (g) *Beneficiaries' convenience to be cared for* : In a multi-channel situation the time-slot opted or allocated for education must suit the beneficiaries, who are mostly occupied otherwise. The IGNOU's time for teleconferencing, for instance, is at 10.30 a.m. At that hour, many of the distance learners might not be available to take advantage of the great facility.

Nonetheless, it should be a matter of satisfaction that the role of electronic media in distance education has assumed universal recognition. The recent technological advances made — and the newer ones that are on the threshold — have certainly helped many to get what they were initially denied by the conventional system, but what they were keen on acquiring. And, many, many more would be able to follow them in future.



GOUTHAM EDUCATIONAL ACADEMY

West of Chord Road, Rajajinagar, Manjunathanagar 1st Phase, Bangalore-560 010
PHONE : 080-3303737/3-489519, Tele Fax : 3385300, E-mail : goutham@giashg01.vsnl.net.in

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Evolution of Home Science in India

Vibhu*

Initially Home Science was introduced by social reformers, to dislodge Britishers' *'carte-blanche'*. Opening of *'Zanana schools'* was the starting action for the emancipation of Indian women. The stepping stone was not very successful due to lack of funds for those special schools with special demands, shortage of lady teachers, low marriage age, majority of orthodox society, distances of the schools from home etc. Therefore, the second milestone was the introduction of Home Science in 1927 by educational planners at All India Women's Conference. At this point Home Science acted as an incentive to parents as it subsumed the same deeds, which the girls usually learned informally from their elders at home. With this the education of women got recognition and Home Science education particularly was considered as a status symbol, by the society. At that time, it was chosen by the girls who belonged to the families of higher income groups. It was then named as Domestic Science, Domestic Economics, House Craft (Parlikar, 1983). The first schools to introduce Home Science were the Convents, the Mission schools and the Anglo Indian Schools (Shukla and Rajlakshmi, 1980). The objective was to prepare the girls as future housewives for aristocratic families.

With the courage showed by the parents in sending their children of weaker sex to schools, the importance of the subject was acknowledged by government officials as evident in Sargent Report, 1944.

After independence in 1947, in Basic Education, propounded by Mahatma Gandhi, ample provision was made for children to learn Home Science through activities like cloth weaving. The objective was to provide fundamental knowledge essential for happy, harmonious home living rather than preparation of future housewives for aristocratic families. The idea behind the change was that India did not comprise of aristocratic families alone. Home Science during this period aimed to provide the knowledge of happy and harmonious home living for everybody and for every person. The home, nucleus of society, ranged from the fort to footpath. The coup d'état was that that the plan never came up for actual practice due to its own restrictions like culmination in non-industrial society. This diction appeared to some as an obstacle in the 'forward looking' nation, vis-a-vis the thought that resulted in the implementation of Wardha scheme of Education which was too academic and artificial. Hence, in 1953, the Secondary Education Commission

eloquently proposed that 'education should provide opportunities for development of self as an individual as well as a worthy component of society'. With this Home Science received great support and spread even to those females who belonged to middle income groups. They opted for Home Science with the aim of becoming efficient in the greatest of all professions 'the care of home', in line with the then recent objectives. At that time, its objectives were to provide fundamental knowledge essential for happy and harmonious home living and to provide knowledge for the development of self as an individual as well as a worthy component of society.

As a result of this, a multipurpose programme of education was prepared. This programme aimed at providing to each individual pupil an opportunity to utilise and develop his/her natural tendencies through the special elective subjects chosen by them in the schools. The programme offered seven options, these were: humanities, science, technical subjects, commercial subjects, agricultural subjects, fine arts, Home Science. But Home Science as a subject was not taught in its true sense. What was included in those schools was an experience in related fields, which concerned home, such as tailoring, dress-designing, handicrafts, fancy cooking and food preservation. And all this tended to diversify the curricular needs of Home Science without meeting its aims.

In 1966, Report of Education Commission (Kothari Commission) recommended that Home Science in addition to giving general education should equip its students on a scientific basis for work in the professional fields. Simultaneously, home-scientists also thought of vocationalising its field, as its clientele comprised females of middle income groups, who needed economic sufficiency and some return on their education. Thus the Home Science Association of India (HSAI) in 1966, emphasized the need for publicizing this field, for job opportunities. This is indicated in its objectives, which are enunciated as:

- preparing for the greatest of all professions, i.e., wife and mother.
- preparing for career.
- training graduates in Home Science to meet needs of research.
- training for leadership in Home Science programme.

In 1960s and early 1970s Home Science was one of the main streams of education. Still the achievements of monetary, educational and social benefits and gains

*E-1082, Saraswati Vihar, Delhi-110 034.

was a dream for Home Science students, teachers and administrators. And the factor responsible for this trivial achievement in the goals was the dearth of sufficient funds and therefore lack of proper facilities to work.

With the revision of educational system, in 1976 and introduction of 10+2+3 system, Home Science upto tenth grade was offered in the form of work experience in line with the content offered by technical schools. However, at +2 level the main aim of offering Home Science through vocational stream was to prepare individuals for various existing vocations so that at the end of the twelfth grade pupils could enter into the related jobs or go in for further studies at colleges and universities.

But in actual practice different aspects of vocationalising the programme were not taken care of adequately. Therefore, in June, 1977, Ishwar Bhai Patel Committee introduced 'Socially Useful Productive Work Experience (SUPWE) into the school curriculum, in lieu of vocationalising Home Science. It was made a compulsory subject. According to the plan, only those students were to be awarded a pass certificate who obtained a satisfactory grade in SUPWE. With this report, a plan in late 70s was made to completely remove the Home Science stream. The main reasons for its set back were :

- Home Science colleges were not found within easy reach of all those who had chosen this subject at the secondary or senior secondary levels. Many people felt that the teaching of Home Science at the secondary level was a waste.
- State governments faced the problems of maintaining teaching laboratories and finding qualified teachers.
- A hidden reason behind the closure was that Home Science was considered an exclusively female area of study and therefore, unimportant (Chandra, 1989).

The scheme of Ishwar Bhai Patel did not pick up well as the courses included in SUPWE were not locality based or need based (Shukla, 1988). There were no syllabi guidelines, experienced and trained staff, provision of apprenticeship training, follow-up of the programme for the employment of the students. After completing the courses, the students were expected to open up their hotels, motels, tie and dye shops, boutiques, furniture designing shops (blue collar jobs). But by being females they were not allowed to do so.

Therefore, a need was felt by educational planners to integrate the vocational courses so as to avail of better facilities with the industrial training institutes. Thus in the New Education Policy (1986), Home Science once again regained the status of a subject. Its objectives were

once again redefined as follows:

- To develop balanced personality, possessing good health, self-reliance and confidence, generating love and happiness so that they become intelligent, affectionate and dedicated parents and citizens.
- To contribute to economic, moral, ethical and spiritual standards of families and communities.
- To acquire skills and scientific information necessary for managing resources and to appreciate dignity of labour.
- To appreciate and preserve the best in culture, by expressing art in daily life.
- To decrease the dropout rate in the schools. Since many boys and girls terminate their education by the secondary stage of education, therefore, if home-making knowledge is provided to them at this stage, it can ensure their presence in the school, as the art of home making is essential for everyone.

According to New Education Policy of 1986, Home Science was needed to cater to too many objectives. The heart of the objectives was practical, efficient, happy and harmonious way of life through learning scientific way of working for the home of the then contemporary society.

This is the latest foundational policy. Necessary modifications are made in it from time to time in the form of draft report, action plan etc. A strong and loud modification reiterated in the main policy is that of 'equality in education'.

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State of India's Agrarian Economy

Dr. Har Swarup Singh, Former Lt. Governor of Pondicherry and India's High Commissioner to Maldives, delivered the Tenth Sir Chhotu Ram Memorial Lecture at the Chaudhary Charan Singh Haryana Agricultural University, Hisar. He said, "The commemoration of Sir Chhotu Ram's legacy is eventful and relevant not just for what he managed to do but also because most of the difficulties faced by the farmers in his time are still with us; farmers decidedly remain a neglected majority.....small and unviable holdings, low productivity due to inadequate availability and poor quality of most farm inputs shortage of credit, lack of infrastructural facilities, unsatisfactory marketing of farm output and bureaucratic hurdles all continue to plague India's agricultural economy." Excerpts

Growth Trends in Agriculture

The Indian economy is still dominated by the agricultural sector which accounts for nearly one-third of the Gross Domestic Product (GDP) and employs close to two-thirds of the labour force. Agricultural exports account for about 5 per cent of all agricultural production and about 16 per cent of the country's exports. Agriculture has grown at about 2.2 per cent per annum, a rate that is quite close to the rate of growth of the country's population. The growth rates registered by Net National Domestic Product generated in Agriculture (NNDPA) and the All Crop Production Index (ACPI) at the all-India level remained fairly stable in the neighbourhood of 3.27 per cent and 3.40 per cent during 1981-82 to 1994-95 compared to 2.09 per cent and 2.23 per cent realised in the period 1968-69 to 1980-81. Under this somewhat optimistic scenario projections of growth rates in ACPI and NNDPA for the Ninth Plan period fall in the range of 4.2 per cent to 4.4 per cent. In other words, the latest official estimates of ACPI and NNDPA (drawn from the Government of India's Economic Survey 1996-97) do not support the existence of deceleration in agricultural growth after 1990-91. On the contrary, evidence has been more in

favour of some acceleration in the growth rate rather than deceleration (*Sawant, 1997*). The year 1995-96 witnessed a very satisfactory growth rate in GDP, of 7.1 per cent. The initial spurt of reforms from 1991-92 to 1993-94 was very successful by all accounts, resulting in a jump in economic growth to 7.2 per cent in 1994-95 (in terms of GDP at factor cost). Economic growth in 1996-97 is estimated by the CSO at 6.8 per cent. Thus, the Eighth Plan is likely to end with an average growth of 6.5 per cent per annum, 0.9 per cent point higher than the target rate of 5.6 per cent and 0.5 per cent point higher than the actual achievement under the Seventh Plan.

Agriculture and allied sectors have grown at about 3.5 per cent per annum during the Eighth Plan period. Crop production in 1996-97 was projected to go up by 3 per cent after a fall of 0.4 per cent in 1995-96. Foodgrains production is expected to recover to 191.2 million tonnes, only marginally lower than in 1994-95 (191.5 million tonnes). The annual growth rate in foodgrains output has been 2.86 per cent over the years 1980-81 to 1995-96. However, looking at the first seven years of the current decade (1990-91 to 1996-97), the annual rate of growth of foodgrains was only 1.7 per cent

which is lower than the current population growth (2.14 per cent). If this trend continues it could become a matter of grave concern (*Economic Survey 1996-97*). The differential pattern of growth between foodgrains production (2.93 per cent) and non-foodgrains production (4.18 per cent) that emerged in the 1980s (1981-82 to 1990-91) was further reinforced in the early part of the 1990s. The growth rate of foodgrains production (2.76 per cent) slides down a little when all the years upto 1995-96 are taken rather than only the decade of 1981-90. In contrast the output growth rate for non-foodgrains moved up (4.37 per cent) further, though only marginally, with the addition of recent years (i.e. 1981-82 to 1995-96). The factors behind this widening disparity in growth between the two groups of crops have been an acceleration in per hectare yield and area of non foodgrains in the latter part of 1981-96 as against deceleration in growth for both components of foodgrains output (*Sawant, 1997*).

Comparative view with China

However, the country's position is unsatisfactory seen in the context of agricultural development in Asia as a whole, and especially in relation to what has happened in the Peoples' Republic of China. The general index of per capita agricultural production (1979-81 as the base) rose by 19 per cent in India during the decade of the 1980s in comparison with 137 per cent in China (*Vyas, 1994*). The foodgrains production increased from 1.1 billion tonnes in 1949 to 4.5 billion tonnes in 1990 in China while the corresponding figures for India were 0.50 billion tonnes and 1.76 billion tonnes. Chinese agricultural production has increased at an annual rate of 3.8 per cent per annum, and for the period 1977 to 1990, the rate was 6.3 per cent per annum against just half of this (3.2 per cent)

experienced in India during 1981-82 to 1990-91 (Ghosh, 1995). In spite of the overall rise in production of wheat and rice, we still lag behind in productivity. In India, the average per hectare yield of wheat is 2,420 kgs while in China it is 3,318 kgs. The corresponding yield of rice in India and China are 2,817 kgs and 5,859 kgs, respectively. The yields of coarse cereals and pulses are also low. Similarly, the cotton yield of 246 kgs in 1995-96 is comparatively low, especially when juxtaposed with Australia's yield of 1,510 kgs and 783 kgs in Israel (Gupta, 1997).

The share of industry in China's total GDP increased from 36 per cent in 1953 to 63 per cent in 1990 whereas, in India, the percentage contribution of industry to national output remained at some 24 per cent. The contribution of agriculture to total produce in China declined from 41 per cent to 20 per cent over 1953-90 in comparison with a decline of agriculture's share in India's GDP from 57 per cent to 33 per cent during the corresponding period (Ghosh, 1995). The stated objective of the new economic policy in India is to increase the rate of growth of the economy from nearly 5.5 per cent achieved during the last 15 years to at least 7 per cent per year, which cannot be achieved by focusing on industry alone. Agricultural growth rate has to be raised to around 4 per cent from some 2 per cent achieved in the past. This is not just desirable for maintaining food self sufficiency but is essential for creating more livelihood opportunities in the farm and non farm sectors.

Emerging Issues for Agricultural Development

(i) Land Overburdened beyond its Carrying Capacity

Unlike in other Asian countries, particularly China, there have been only marginal changes

in India's agrarian structure. In terms of continuing dependence of the workforce on agriculture, India has had a rather poor record. Economically active population in agriculture as a percentage of total workforce declined slightly, from 70.7 per cent in 1975 to 66.5 per cent in 1990; in China, this proportion declined from 77.2 per cent to 49 per cent during the same period. It has resulted in widening the gap in per capita income between the agricultural sector and the rest of the economy.

The lesson from China's higher growth in agriculture can be utilised by putting our burgeoning workforce to productive work for capital formation. Despite, divergent polity in the two countries, we can still follow many parts of the Chinese model of development through a process of decentralisation of power and authority, polity and economy, allowing each village community or other small entities to develop their own 'watershed areas' to improve agriculture, provide employment and set up local rural industries. Cooperative institutions can play an important role in infrastructural development, marketing, banking and financing, processing, etc.

(ii) Farm Size Constraint

The number of cultivators and agricultural labourers increased, respectively from 69.9 million and 27.3 million in 1951, to 110.7 million and 74.6 million in 1991, and in tandem the number of unviable holdings continued to increase unabated. For instance, more than three-fourths (78 per cent) of operational holdings in 1991 were below two hectares and 91 per cent of total land holdings are above ten hectares. The average size of holding has declined further, from 1.69 hectares in 1985-86 to 1.57 hectares in 1990-91.

(iii) Land Ceilings

It is surprising that while there is no ceiling on owning urban property and no limit on the size of industry and business that can be operated, only agricultural holdings are subject to a ceiling. The redundant farm labour has been kept bottled up in the agriculture sector through low ceilings and distribution of small uneconomic parcels of the so-called surplus land. It has not been realised that farming is also a business enterprise which involves the cost-return consideration, factor-use efficiency and market competition. The consideration of productivity per unit of land operated as well as viability of farm size would move the farm firm on a growth path. Farming can remain viable only if farm units grow through internal capital formation and adoption of fast-changing, improved production technology. Economically unviable small and marginal holdings have no place in a globalised, free and competitive market economy. Today, even a 7-hectare two crop irrigated farm yields a net income roughly equivalent to that of an Assistant in a Government office. The latter's income is also more certain than farm income and is free from any risk. Besides, educational and health costs of comparable services are much higher for rural families. There is a clear need to set the agriculture enterprise free from the shackles of size and scale. Unless agriculture as a free business/industry attracts capital investments as well as educated and informed entrepreneurs and becomes capable of using modern technology, it cannot start traversing any perceptible growth curve that could generate agricultural surpluses at row cost to compete in the domestic and global markets. It is, therefore, essential that the Land Ceilings Act and agrar-

ian laws (especially tenancy laws) are reviewed to provide the much needed impetus to growth and development in the agriculture sector (Johl, 1995).

(iv) Declining Employment Rate in Agriculture

In Asia, countries like India and Pakistan, despite respectable GDP growth rates (more than 6 per cent a year) had unemployment rates above 15 per cent. Only the East-Asian countries had low unemployment rates of below 3 per cent (*Human Development Report*, 1993). During the past decade in India, GDP shot up from 3.5 to 5.3 per cent, but the employment growth rate fell from 2.82 per cent during 1973-78 to 1.55 per cent during 1983 to 1987-88. In agriculture, the employment growth rate declined from 1.8 to an insignificant 0.07 per cent during the 15-year period ending in 1988. The decline in employment growth rate was sharper in rural areas, from 2.52 to 0.95 per cent, in comparison with urban area — from 4.30 to 3.79 per cent (Jain, 1992). By making use of the employment elasticities (0.45 for all sectors) worked out by Bhattacharya and Mitra and the actual observed growth rates, the likely additions to employment were worked out. It was observed that the unemployed rose sharply from 11 million in 1990-91 to 21 million in 1993-94. The rate of unemployment which was 3.1% in 1990-91 shot up to 5.5% in 1993-94. (Ruddardatt 1994). This is a cause of serious concern to the economy as a considerable part of our population is below the poverty line. For continued economic access of these sections of population to food, the options for allowing food prices to go up in order to achieve the much-needed improvement in terms of trade for the agricultural sector are limited.

To cope with the above problem, it is necessary that the strategy of development be oriented in such a way that the pattern of investment moved towards isolated rural areas. The new economic policy should allocate more resources to develop the infrastructure-in-terms of irrigation, and availabing of rural credit and other facilities in these areas since agriculture has high employment elasticity. It would also be desirable to invest in health, education and improved labour skills so that the work force is able to take advantage of latest technologies and methods of production. Promotion of small scale enterprises is the surest way to enlarge employment having higher employment elasticity (0.50) as compared to large enterprises (0.20).

(v) Terms of Trade and Capital Formation/Investment

The large investment made by the Government in irrigation works, reflected in the increase of total Gross Fixed Capital Formation (GFCF) at the rate of 4.36 per cent per annum, seems to have helped in raising the value added in agriculture at the rate of 3.30 per cent per annum and crop production by 2.88 per cent per annum during the first phase — 1951-52 to 1964-65. The crop output growth appears to be impressive, particularly when viewed in the context of traditional technology and adverse terms of trade which have affected farmers' income as indicated by a marginal increase in income at the rate of 1 per cent annum.

The second phase (1967-68 to 1977-78) had favourable terms of trade. This, along with new technology, had helped in raising total gross capital formation at the rate of 4.79 per cent per annum and the public investment by 4.49 per cent. As a result, crop production increased at the rate of 4.25 per cent, contributed mainly by productivity

increase (99 per cent) through the use of modern inputs during the second period. GDP in agriculture at 1980-81 prices also increased by 3.81 per cent; on the per-hectare basis it works out to 3.10 per cent. The farmers' income also increased at 1.96 per cent per annum.

The greater emphasis on intensification of modern inputs and marketing during the third phase (i.e. 1978-79 to 1990-91) seems to have raised the farmer's income at 3.75 per cent per annum. The crop output increased at 3.81 per cent per annum, again mostly (98 per cent) accounted for by the productivity increase. The GDP in agriculture at 1980-81 prices increased by 2.90 per cent in spite of the declining public investment (at the rate of 1.43 per cent per annum).

Whatever modest gross capital formation took place (1.2 per cent as against 4.79 per cent during the second period) during the third period, it was mainly due to private investment, which increased at the rate of 3.08 per cent per annum. The private investment that took place during the period despite unfavourable terms of trade probably occurred because productivity increased by 3.77 per cent per annum, the highest during the past four decades. So is the case with the farmers' income. It seems that as long as there is sufficient gain in income — whether caused by increase in productivity or price rise reflected in favourable terms of trade — the farmers themselves would go on investing in agriculture for raising production. The terms of trade (whether barter or gross) remained against agriculture during the first and the third periods. Yet, the capacity of the agricultural sector to purchase the goods from the non-agricultural sector improved over time because of the increased income (Misra & Hazell, 1996).

Agricultural fixed capital formation required to finance a 4 per cent annual growth in the Ninth Plan period is nowhere in sight. Fixed investment which had reached a level of 8.63% of agricultural GDP went down to 8.55% in 1994-95, whereas it should be around 12% to achieve the goal. It is happening at a time when the agricultural sector needs much larger credit and infrastructure backup for enabling it to compete effectively in the international markets under more difficult conditions. The crisis of channelling larger loanable funds through declogging rural credit lines continues. The role of the public sector should be mainly confined to infrastructure development and social welfare growth. The biggest constraint to growth at present is the lack of infrastructural facilities. Therefore, the first priority of the Central and State Governments should be to develop such facilities through public sector investments, collaborative commercially-viable projects and through private sector investments. The following six elements of infrastructure are crucial :

a. Transport and Communication : Development of roads, railways, water ways, ports, etc. and efficient communication system require priority in national investment programmes.

b. Power : Lack of power alongwith inadequate transport and communication systems is posing a serious constraints to private sector investment in India. No investment would be possible without the availability of sufficient, regular and reasonably priced power, especially electricity.

c. Education : Our country has lagged behind in education. Currently more than two-thirds of our population is illiterate, or poorly and irrelevantly educated. The

process of providing socially relevant education to masses ought to be a priority item.

d. Health : Illiterate workers with poor health can never become efficient workers. The provision of adequate public health facilities, hygienic living conditions, medical treatment and hospitalisation facilities within the reach of the population is highly desirable.

e. Production credit : The demand for commercially viable credit in India is low because of poorly developed infrastructural elements. The demand for reasonably priced commercial credit will increase in the wake of improvements in the above critical areas. The removal of all these constraints to growth is necessary to make the production process globally competitive.

f. Agricultural research : The dismal position of the agricultural sector can also be judged by investments in agricultural research. India is currently devoting to agricultural research only about 0.3 per cent of its agricultural domestic product, as against 0.7 per cent in the developing countries as a whole and as much as 2-3 per cent in the developed countries (Rao, 1994). There is considerable scope for allocating incremental outlays for the priority areas in agricultural research, such as dryland farming, biotechnology, and agro-processing, which could be expected to give very good returns in the long run.

(vi) Inputs Subsidies

The subsidies in agriculture are generally rationalised in the overall economic context that they play crucial role in stimulating development of any country through increased agricultural production, employment and investment. More specifically, subsidies are advanced either to promote the use of new inputs or to

transfer income in favour of the farming community in order to keep them in parity with non-farming communities. The use of subsidies to promote new inputs is generally the case with developing countries and transferring income in favour of the farming community is the case with developed countries.

Higher prices for farm products can be provided mainly by insulating domestic markets from the world economy through a restrictive trade policy. On the other hand, vital inputs like fertilizers, irrigation water, electricity used in the agricultural sector and credit can be supplied to the farmers at prices which are below their "would have been" open market prices. The prices of inputs, in such cases do not reflect their true value, i.e. the real cost of supplying the inputs. Of the above mentioned two alternatives, subsidies on inputs are normally preferred because it is believed that benefits of Government expenditure can be derived by the farmers only in proportion to their use of inputs (Krishna, 1967).

The difference between what cultivators would have paid under that counterfactual free trade scenario and what they are actually paying may be termed as economic subsidy to the farmers. Going by this approach, it is estimated that, on an average during the nine-year period (1981-82 to 1989-90), cultivators received economic subsidy amounting to about 48 per cent of what is delineated in the central Government's Budget (Gulati, 1990). The rest of the fertilizer subsidy (52 per cent) may be deemed going to the fertilizer industry or its feed-back supplying agencies as price of their existence beyond what the norms of economic efficiency would otherwise allow (Gulati & Kalra, 1992).

The subsidies on inputs increased at a compound growth rate of more than 10 per cent over the period 1980-81 to 1986-87, from Rs. 65.6 billion in 1980-81 to Rs. 117.9 billion in 1986-87. This is roughly 17 per cent of the value added in Indian agriculture. The share of irrigation subsidy in total subsidies is overwhelming — more than 70 per cent on an average during this period; it is followed by credit subsidy (11.8 per cent), electricity subsidy (8.9 per cent) and fertilizer subsidy (7.7 per cent). If, however, one looks at these input subsidies on the basis of per hectare of gross cropped area (GCA) in different States, it is Punjab that ranks the highest with Rs. 1027 per hectare as input subsidies (average of 1980-81 to 1986-87), followed by Haryana (Rs. 824/ha.), Tamil Nadu (Rs. 794/ha.) and Andhra Pradesh (Rs. 684/ha.). They all belong to the category of developed States and get much higher input subsidies (on per hectare basis) than the all-India average of Rs. 511/ha. It seems to suggest a somewhat regressive pattern in the distribution of input subsidies across States (Gulati, 1989). The reasons for this pattern are the absorptive capacity and enterprise of the farmers in these regions, infrastructure for supplier, extension aid from agricultural universities and other extension/advisory agencies, etc. Obviously, working towards replication of these conditions in other parts of the country is essential in order to raise agricultural productivity and farm incomes.

It would be interesting to note at this stage that Indian cultivators face an unfavourable crop-fertilizer ratio not only compared to the one under the free trade scenario but this ratio also remains unfavourable when it is seen in relation to similar (controlled trade) crop-fertilizer price ratios

prevailing in most of the Asian and Pacific countries. For example, in 1984-85 the quantum of paddy (kg) required to buy one kilogram of nitrogen in different countries was as follows : Burma-0.69, the Republic of Korea-0.99, Indonesia-1.24, Malaysia-1.26, Sri Lanka-1.63, Bangladesh-2.01, Pakistan-2.47, Nepal-2.87, India-3.41, Philippines-3.78, and Thailand-3.91. These empirical findings suggest one thing — that the Indian cultivator has not been 'not subsidised' on account of fertilizers despite the large amount of budgetary or economic subsidies on fertilizers (Gulati, 1990).

The estimates based on support prices reveal that product-specific aggregate measure of support (AMS) for India (for 17 products out of 22 products for which India maintains market price support programmes) works out to be negative to the tune of (—) Rs. 242 billion during the period 1986-87 to 1988-89. This forms (—) 27.74 per cent of the total value of agricultural production (excluding forestry and fishery). Non-product specific AMS works out to Rs. 46 billion, 5.24 per cent of the total value of agricultural production. This, of course, would vary depending upon the way one measured subsidies, particularly the irrigation subsidy. By adding these two, one gets total AMS which stands at (—) Rs. 196 billion, forming (—) 22.50 per cent of the value of agricultural production. In fact, over the years, the AMS has increased in negative and stood at (—) Rs. 341.44 billion during the triennium ending in 1992-93. This negative support (or net taxation) is due to the fact that prices of different crops have been fixed below their international levels (barring exceptions like oilseeds and sugarcane). The calculations of taxation at farm harvest prices are also in line with those obtained on

the basis of support prices; however, the degree of taxation differs. These facts clearly indicate that Indian agriculture is 'net taxed' (Gulati & Sharma 1995).

These trends of domestic support are contrary to those found in the developed countries of the world. Almost all countries provide positive support to their cultivators, ranging from as high as 72 per cent in the case of Japan, 37 per cent in the European Geonome Community and 26 per cent in the case of USA. This is in sharp contrast to India which imposes tax on its cultivators. (Gulati & Sharma 1994 b). This policy of keeping farm prices below their international prices contributed to the bias against agriculture. The prices of agricultural products were kept low presumably to protect the poor, but industrial prices were kept high by erecting high tariff barriers. The terms of trade remained much against agriculture due to these Government policies compared to what they would have been in a free trade environment.

In addition to the low prices of output, the pervasive Government intervention in terms of movement restrictions, distributional controls, stocking, domestic and foreign trade, though initially designed to improve the welfare of the people, have injected inefficiencies in the entire agricultural system (Bhagwati and Srinivasan, 1993). This diverted resources away from agriculture to industry and investment in agriculture remained low.

(vii) Food Subsidy and Public Distribution System PDS : —

Although absolute expenditure on food subsidies increased from Rs. 24,760 million in 1989-90 to Rs. 52,500 million in 1995-96, its relative share as per cent of GDP declined from 0.60 to 0.50 during

the corresponding period. India's food subsidy per capita in 1985 was US\$ 0.92 compared to \$1.51 in Pakistan, \$2.38 in Brazil, \$4.32 in Sri Lanka and \$14.46 in Mexico. The nominal growing size of the budgeted food subsidy can be on account of a growing gap between producer and consumer prices but is no account of intermediate costs of procurement, storage, buffer stock operations and transport (Swaminathan, 1996).

The decline in the relative share of public distribution of foodgrains to net availability, from 13.1 per cent in 1991 to 9.1 per cent in 1995 is not a healthy sign for consumers, especially for those below the poverty line, a majority of which are living in rural areas. The low level of per capita availability speaks of under nourishment of a vast majority of the Indian population. The decline in offtake as per cent of allocation, from about 75 per cent to 43 per cent in wheat and 82 per cent to 64 per cent in rice in 1990-91 to 1995-96, respectively, is a commentary on the inadequate quality distributed through the PDS. It is also perhaps related to better free-market access and the narrowing of the price differential between the PDS retail and free market prices. A higher increase occurred in issue prices of foodgrains for PDS, 72 to 85 per cent in case of wheat and rice over the period 1991-94 as compared to the increase in other price indices (32 per cent in WPI, 53 per cent in CPIAL, and 60-65 per cent rise in minimum support prices of wheat and rice during the corresponding period). The wide disparity among States in terms of population covered by PDS was observed as the share of total supply of foodgrains received through PDS by a State was not proportionate to its size of population below the poverty line. The poor global ranking of India in human devel-

opment (134th among 173 countries) points to limited access of population to health care, education, safe drinking water, sanitation and other social amenities, especially in rural areas. Thus, there is an urgent need to revamp the food security system to eradicate the under nourishment of poor people and to raise their level of living through easy access to basic amenities and their active participation in various rural development programmes (Khatkar, 1996).

(viii) *Agro-processing*

Although the Indian food-processing industry expanded by 5.7 per cent in 1992-93 mainly in small and cottage industries compared to 1.6 per cent in 1989-90, most of the agricultural produce is still consumed and exported unprocessed. We are processing less than one per cent of the aggregate output of fruits and vegetables against 80 per cent in South Africa, 65 per cent in USA, 70 per cent in Brazil and 83 per cent in Malaysia. A high Food Industry Potentiality Index (FIPI-475.2) indicates substantial opportunity for potential investors in the Indian food processing industry. To realise this, the Government should pay due attention to make this industry a viable sector for earning more foreign exchange by capturing international markets and to make farming a remunerative enterprise through value addition to the agricultural produce (Khatkar, 1996).

(ix) *Export and Trade*

Wheat and rice have comparative advantage in India's foreign trade; rice accounted for 9.03 per cent of the total value of exports, TE, in 1993 and wheat only 0.57 per cent (1980-81 to 1992-93). For the first time in the history of agriculture, we have emerged as the second largest exporter of rice after Thailand in the world. Re-

cently, horticultural products and fisheries have been in the forefront of our agri-exports. As per the DGCI & S report, the share of agricultural exports in national exports rose from 13.37 per cent during 1994-95 to 16.33 per cent during 1995-96 (Randhawa, 1996).

In India, horticultural crops cover about 6.8 per cent of the total area, contributing about 18 per cent of the gross agricultural output. Today, India is the largest producer of fruits (39.47 million tons) and ranks second in the production of vegetables (79 million tons) after China (118.6 million tons). Our share of the global output is about 8 per cent in fruits and 12 per cent in vegetables. India alone produces 65 per cent of the world's mangoes, 11 per cent of bananas and 12 per cent of onions.

India has been exporting fresh fruits for several decades. Horticultural products like fruits, vegetables and flowers, spices, etc account for nearly 25 per cent of the country's total agricultural exports. The shipment of fresh fruits, which totaled only 27.208 tonnes valued at Rs. 17.42 crores in 1983-84, rose to Rs. 542.51 crores in 1995-96. Processed vegetables and fruits worth Rs. 347.06 crores were exported during 1995-96. In floriculture, exportable items included cut flowers, cut foliage, live plants, seeds, tubers and corms. Exports of flowers were estimated at Rs. 30 crore (1994-95). The export of floriculture products increased from Rs. 18.84 crore in 1993-94 to Rs. 57.8 crores in 1995-96. Apart from traditional exports, higher value added products have got great scope (Paroda, 1996).

Considerable export opportunities exist for wheat (specially durum), rice (basmati and superfine), cotton (long staple), sugar (Brown), semi-perishable vegetables, viz. potato and onion, proc-

essed foods (particularly fruits and vegetables), cut flowers, marine products, and livestock products. Since there will be tough competition from traditional exporters of these commodities, exports should be made on a regular basis and should conform to the prescribed quality, and sanitary and phytosanitary standards. Markets have to be cultivated and not treated as one-shot or occasional money-making opportunities. Domestic prices should be aligned gradually with international prices as much as possible. Gainful employment opportunities for the rural poor should be created within the villages to reduce the burden on agriculture and to stop the migration of labour force to the urban areas. The land reform and tenancy laws should be amended to encourage larger operational holdings through the natural process of leasing in/out of land. Without increasing efficiency it would not be possible to meet the challenges of very competitive international trading.

(x) *The Neglect of Farmers*

The commemoration of Sir Chhotu Ram's legacy is eventful and relevant not just for what he managed to do but also because most of the difficulties faced by the farmers in his time are still with us; farmers decidedly remain a neglected majority. As indicated earlier, farmers are still working against heavy odds: small and unviable holdings, low productivity due to inadequate availability and poor quality of most farm inputs, shortage of credit, lack of infrastructural facilities, unsatisfactory marketing of farm output and bureaucratic hurdles all continue to plague India's agricultural economy.

It is worrisome that while agricultural/rural incomes have

gone up, the gap between rural and urban populations has widened in areas, in terms of per capita earnings and consumption as well as from the broader viewpoint of living conditions.

The rural-urban dichotomy and trends towards worsening of the comparative picture for rural areas are obvious from several sets of data presented earlier, on the generally adverse terms of trade, the position regarding income and consumption, the incidence of unemployment, etc. The facilities in rural areas compare badly with those in urban centres in the fields of education, health and sanitation services, and general infrastructure (roads, electricity, water etc.); again, over time the comparative position has become worse for many services. Similarly the situation regarding cultural facilities and the law and order position is not only considerably worse vis-a-vis urban areas, but in many cases — especially in the maintenance of law and order — there is a marked deterioration compared to earlier years. The quality of life in rural areas has decidedly gone down despite the improvement in incomes. On the question of subsidies to agriculture discussed earlier one point needs to be stated emphatically: That the farm sector needs and deserves subsidies and general support, but is not getting even the due benefits. Criticism of official support to farmers and the bias against agriculture, which continues to be a key sector of the economy, stems from a widespread lack of appreciation of the forces affecting agriculture and to its special circumstances: small size of individual farm units, which are scattered over large areas; heavy dependence on nature and inability to control supply (within a given season, once the crop is sown). In view of the smallness and

economic weakness of the individual agricultural unit, important activities such as agricultural research, education and extension (for transfer of technology) etc can, by and large, be undertaken only by the government. That was, for instance the rationale behind the setting up of the Land Grant University System in the United States long time ago. The need on the part of the Government to give special support to agriculture is indeed recognised all over the world. Therefore, asking for help for this sector is a perfectly legitimate demand. And, yet the cause of the farmer has not been taken up effectively in our country. The paucity of appropriate data on which to base the case for improved policy measures and to seek relief for agriculture, lack of organisation on the part of farmers, absence of any meaningful lobbying, and benign neglect or indifference — or even bias against the farmer in many situations — on the part of the Government, are all obstacles in the farmers' way to present their case and secure help. Farm organisations are weak and usually engage in taking up select causes — more as a one-time/one-issue proposition to obtain some urgent one point relief rather than following a broad-based, systematic and sustained plan for farmers' welfare. On appropriate occasions a confrontational approach may, of course, be needed but an overwhelming dependence on it cannot by itself, achieve desirable goals and generate a broad understanding and supportive climate for well-deserved official action in favour of the farmer. To illustrate the lack of keenness and of utter failure to adopt an "all court press" system of lobbying, I could cite my own experience as member of the Planning Commission in-charge of Agriculture was only infrequently approached by farmers' groups

and never by any organisation. From the north Western part of India Shri Virendera Verma, the distinguished farmer Governor, who was a Member of Parliament (RS) at the time did exchange view and made a number of written suggestions, including the desirability of allowing financing for old tractors (and not just the new ones), I discussed matter many times with Sh. Sharad Joshi a well known farm leader, who was advising the Union Agriculture Ministry at the time. But basically, it was I, and the Planning Commission as a group, who took the initiative to consult agriculturists, farm leaders, agricultural economists and scientists, NGO representatives and others, to obtain inputs for our important work.

That farmers remain an unorganised group and do not have much say in power polity has been commented upon by agricultural policy experts and others from time to time. Farmers' organisations, such as these, are yet to transform themselves into a real movement to fight for the rural poor and for integrated rural development. Such organisations indeed have considerable potential for checking the exploitative role of traders, for disciplining local bureaucracy, for organising community support for more productive and equitable use of common property resources and, of course, for bringing more resources for rural development and ensuring their proper use. (Khatkar et al., 1990).

In stark contrast to the farmers lack of say in governmental decisions, representatives of the industry stay in close and constant touch with legislators and with bureaucrats, and had succeeded long ago in devising formal ways to interact, eg. The pre-Budget dis-

cussions held regularly by the Finance Minister and officials with the representatives of the industry from FICCI, ASSOCHAM, CII and others. However, I am not aware of any by the government with anybody in the farm sector; even informal consultations are few and far between and confined usually to urgent, specific issues.

In the context of lobbying on behalf of the farmer, State Agricultural Universities can and should play an effective role. They do have valuable information, a system of networking through extension services and position of influence... at least at the State Level.... all factors that can facilitate intervention on behalf of the farmer. CCSHAU has indeed done a number of things that do not strictly fall within the scope of its defined responsibility. I understand that the present Vice-Chancellor... committed as he is to the cause of agricultural development... is expanding this proactive role, for which I heartily applaud him and his co-workers.

In closing, I would like to say that it is imperative that concerted efforts were made to improve the state of India's agrarian economy in view of its size, vital importance and considerable potential for contributing to the overall development of the economy and society at large; and all this needs to be done in environmentally safe ways.

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Table 1: Distribution of Operational Holdings in India

Holding size (ha)	1985-86			1990-91		
	Number (000)	Cumulative percentage	Area (000 ha)	Number (000)	Cumulative percentage	Area (000 ha)
Less than 1	56147	57.8	22042	62106	59.0	24615
1.0-2.0	17922	76.2	25708	19971	78.0	28707
2.0-4.0	13252	89.8	36666	13913	91.2	38348
4.0-10.0	7916	98.0	47144	7630	98.4	45049
10.0 & above	1918	100.0	33002	1667	100.0	28885
Total	97155	100.0	164562	105286	100.0	165603
Average size of holding (ha)	1.69			1.57		

Source: Government of India (1995)

Table 2: Gross Capital Formation in Agriculture at 1980-81 Prices
Rs crore

Year	Total	Public	Private	Per cent Share	
				Public	Private
1970-71	2758	789	1969	28.6	71.4
1980-81	4636	1796	2840	38.7	61.3
1990-91	4594	1154	3440	25.1	74.9
1991-92	4729	1002	3727	21.2	78.8
1992-93	5372	1061	4311	19.7	80.3
1993-94	5038	1153	3885	22.9	77.1
1994-95	5678	1329	4349	23.4	76.6
1995-96*	6301	1310	4991	28.8	79.2

*Quick estimates.

Source: *Economic Survey*, 1996-97 p. 151

Table 3: Terms of Trade, Change in Income, Investment & Growth Performance during the period 1990-91

Items	Phases of Development		
	1992-53 to 1964-65 (First phase)	1967-68 to 1977-78 (Second phase)	1978-79 to 1991-92 (Third phase)
1	2	3	4
1. Terms of trade (1970-71 = 100)			
(i) Barter			
(a) Range	73-94	85-116	82-93
(b) Average	85.6	100.0	86.4
(ii) Gross			
(a) Range	80-98	91-116	83-96
(b) Average	87.8	103.8	88.0

2. Income changes (1970-71 = 100)

(i) Index			
(a) Range	65-93	100-118	99-165
(b) Average	73.2	107.8	128.3
(ii) Annual growth (per cent)	1.00	1.96	3.75
3. Investment (Per cent Annum Changes)			
(i) Gross fixed capital formation at 80-81 prices			
(a) Per hect.	3.08	4.75	0.62
(b) Total	4.36	4.81	1.27
(ii) Gross capital formation at 80-81 prices			
(a) Public	—	5.61	(—) 1.43
(b) Private	—	4.49	3.08
(c) Total	—	4.79	1.20
4. Share of modern inputs of intermediate consumption (Percent)			
(a) Modern inputs (i.e. fertilizer, pesticides, electricity and diesel)	2.58	16.83	29.18
(b) Traditional inputs	97.42	83.17	70.82
5. Capital intensity (i.e. net fixed Capital stocks per hectare)	2552	3440	4793
6. Growth performance (Per cent annual charges)			
(i) GDP in agriculture at 80-81 prices			
(a) Per hectare	1.87	3.10	2.61
(b) Total	3.30	3.81	2.90
(ii) For all crops			
(a) Area	1.19	0.98	0.71
(b) Productivity	1.71	4.23	3.77
(c) Production	2.88	4.25	3.84
7. Elasticity of output with respect to intermediate inputs	1.44	1.07	0.87
8. Output-input ratio based on intermediate inputs	2.03	3.12	4.90

Source: Misra & Hazell, EPW, March 30, 1996, Pp A-2-A 13.

Table 4: Crop-Fertilizer Price Ratio

	1971-72	1981-82	1991-92	1995-96
A. Paddy				
(i) Kg of Paddy required to buy 1 kg N	3.79	4.44	2.89	2.01
(ii) Kg of Paddy required to buy 1 kg P ₂ O ₅				
(a) SSP	5.45 to 6.66	4.24 to 5.31	3.37 to 3.29	3.97 to 4.74
(b) as DAP	3.51	5.07		5.13

(c) as complex	4.64	5.84	3.82	—
	to	to	to	
	5.60	7.17	4.67	
(iii) kg of Paddy required to buy K_2O	1.68	1.89	1.23	1.68
				to
				2.09
B. Wheat				
(i) Kg of Wheat required to by 1 kg N	2.64	3.93	2.96	2.01
(ii) Kg of Wheat required to buy 1 kg P_2O_5				
(a) SSP	3.80	3.75	3.44	3.97
	to	to		to
	4.64	4.70		4.89
(b) as DAP	2.45	4.48	3.36	4.74
				to
				5.13
(c) as complex	3.24	5.17	3.90	—
	to	to	to	
	3.91	6.35	4.77	—
(iii) kg of Wheat required to buy 1 kg of K_2O	1.17	1.67	1.26	1.68
				to
				2.09

Source: Fertilizer Statistics 1995-96

Table 5 : Annual growth of foodgrains production (compound growth-rates per cent)

Period	Rice	Wheat	Pulses	Food grains
1967-68 to 1995-96	2.90	4.72	0.93	2.67
1980-81 to 1995-96	3.35	3.62	1.21	2.86
1990-91 to 1996-97	1.52	3.62	1.07	1.70

Based on index numbers, base triennium ending 1961-82 = 100

Source: Economic survey 1996-97.

Table 6 : Yield of important crops in India (kg/hectare)

Commodity	Weight*	1970-71	1990-91	1994-95	1995-96
Rice	29.74	1123	1740	1911	1855
Wheat	14.45	1307	2281	2559	2493
Jowar	4.43	466	814	779	834
Bajra	1.87	622	658	700	575
Gram	3.07	663	712	853	697
Groundnut	5.60	834	904	1027	1014
Rape seed & Mustard	2.41	594	904	950	912
S. Cane@	8.11	48	65	71	68
Cotton	4.37	106	225	257	246

*Base: Triennium ending 1981-82 = 100 @ Tonnes/ha

Source: Economic Survey, 1996-97

Table 7 : Estimates of poverty ratio

Year	N.S.S. case		
	Rural	Urban	Total
1987-88	51.00	33.38	46.44
	(302.6)	(65.1)	(367.7)
1990-91	42.42	26.38	38.33
	(264.7)	(56.3)	(321.0)
1991-92	43.02	26.81	38.85
	(272.8)	(58.9)	(331.7)
Dedline in poverty	8.58	7.00	8.11

between 87-88 & 90-91	(37.9)	(8.8)	(46.7)
Increase in poverty between 90-91 & 91-92	0.60	0.43	0.52
	(8.1)	(2.6)	(10.7)

1. Figures in the parenthesis indicate number of poors in millions.

2. The estimates are based on NSS consumer expenditure distribution of 1987-88 (43rd round).

Source: Economic Times, 31.8.92.

Table 8 : Growth of Fixed Capital Formation in Agriculture (per cent)

	Annual Rate of increase/decline		
	1960s	1970s	1980s
1. On public account	2.4	7.3	(—)3.3
2. On private account	8.1	4.2	0.3
3. Total	6.3	5.2	(—)0.9

Source: Dhavan B.D. and S.S. Yadav (1995) Private fixed capital Formation in Agriculture: some aspect of Indian Farmer's investment Behaviour, EPW Sept. 30, 1995 Pp. A-103-109.

Table 9 : Farm subsidies and foodgrains productivity in selected countries-1991

Country	Subsidy (US \$)			kg/ha				
	Total farm subsidies (US \$ billn.)	Population (milln.)	Arable land + (mill ha)	Per capita	Per ha of arable land+	Subsidy as value of agricultural production (at current prices %)	Fertilizer consumption (N+P ₂ O ₅ +K ₂ O)	Foodgrains productivity
1	2	3	4	5-2/3	6-2/4	7	8	9
EC	83.59	345.760	82.205	241.8	1016.8	49	213.0	4970
USA	34.70	252.410	187.776	137.5	184.8	30	99.8	5319
Japan	31.48	123.921	4.552	254.0	6915.6	66	387.3	5708
Canada	7.68	27.034	45.930	284.1	167.2	45	46.8	2627
Australia	1.44	17.292	46.877	83.3	80.7	15	27.3	1693
New Zealand	0.13	3.380	0.410	38.5	317.1	4	934.1	4778
India (1991-92)	3.02*	862.745	169.700	3.5	17.8	5	75.2**	1721

*= Only food and fertilizer subsidy **= 70.3 kg/ha of gross cropped area + = including land under permanent crops

Source: Compiled in FAI, New Delhi

from (1) OECD Report on Farm Subsidies, OECD Secretariat, 1992

(2) 1992 *FAO Production Year Book **Vol 46, FAO Rome

Table 10 : Annual growth rates in agricultural production and population 1960-90 (FAO 1991a)

Particulars	1960's	1970's	1980's
Asia			
Population	2.30	2.10	1.85
Production/capita	1.26	1.05	1.67
Production/capita	1.18	1.17	1.70
India			
Population	2.48	2.50	2.35
Production/capita	-0.37	0.62	1.63
Production/capita	-0.26	0.70	1.72

Table 11 : Annual growth rates in foodgrain production, India

Crop/group	1951-65	1965-90	1951-90
Rice	4.35	2.83	2.73
Wheat	4.23	6.05	5.90
Coarse grains	2.78	0.86	1.32
Total cereals	3.75	3.11	3.04
Pulses	2.19	0.69	0.48
Foodgrains	3.54	2.87	2.73

Table 12 : Monthly per capita expenditure on food & non-food items, rural & urban India

Year	As per cent of consumption expenditure		Aug. Per capita consumption expenditure (Rs)
	Food items	Non-food items	
Rural			
1972-73	72.8	27.2	44
1977-78	64.4	35.6	69
1986-87	65.7	34.3	141
1988-89	63.9	36.1	175
1989-90	64.3	35.7	189
1992-93	65.2	34.8	244
Urban			
1972-73	64.5	35.5	63
1977-78	60.0	40.0	96
1986-87	57.1	42.9	226
1988-89	57.1	42.9	267

1989-90	55.5	44.5	298
1992-93	57.6	42.4	382

Table 13 : Monthly per capita expenditure on food items, rural and urban India

Year (ha)	As per cent of food Expenditure				Monthly	
	Cereals	Pulses	Milk & Milk Products	Meat, egg fish	Fruit & Vegetables	Per Capita food Expenditure (Rs.)
Rural						
1972-73	55.7	6.7	10.0	3.4	6.3	32
1977-78	51.0	6.6	11.9	4.2	7.6	44
1986-87	40.8	6.6	14.6	5.7	10.5	93
1988-89	40.7	6.4	14.0	5.5	10.9	112
1989-90	37.2	6.8	15.1	5.6	11.1	122
1992-93	39.6	6.0	14.5	5.5	11.5	159
Urban						
1972-73	36.2	5.8	14.5	5.1	9.9	41
1977-78	34.1	6.4	15.9	5.7	10.6	58
1986-87	26.1	5.9	18.1	7.2	13.2	129
1988-89	27.1	6.1	17.5	6.9	13.3	152
1989-90	25.7	6.1	17.9	6.9	13.0	165
1992-93	26.3	5.5	18.6	6.5	13.9	221

Source (Table 10-13)

S Selvarajan and A Ravishankar (1996) Foodgrain Production and consumption in India : Shifts trends and implications for food security. *Agric Econ Res Rev* Vol 9(2) 143



CENTRAL INSTITUTE OF ENGLISH AND FOREIGN LANGUAGES

(An Institute of Higher Education Deemed to be a University)
HYDERABAD-500 007 INDIA

ADVT. NO. 9/98

Applications are invited for admission to the Post-Graduate Diploma Course in the Teaching of English (PGDTE) beginning December '98 and M.Phil in English from January 1999 through Distance mode (Correspondence) Course.

Last date for receipt of filled in applications for PGDTE : 30-9-98 and for M.Phil 31.8.1998.

For details please see the prospectus.

For application form and prospectus for the above courses please write to the Head, Department of Distance Education, CIEFL, Hyderabad-500 007 enclosing a crossed Postal Order/Demand Draft for Rs. 15/- (Rupees fifteen only) drawn in favour of Registrar, CIEFL, Hyderabad-500 007.

Venkateshwer Rao
REGISTRAR

Date : 1-7-98

CAMPUS NEWS

Performance Appraisal in Tech Education

A two-day National Seminar on Performance Appraisal and Development System in Technical Education: Need for Effective Implementation was recently organised at College of Engineering and Technology, O.U.A.T. Bhubaneswar. The Seminar was sponsored by Indian Society for Technical Education, New Delhi and the speakers in the Seminar were professionals in various fields associated with performance appraisal in industries & technical institutions.

Speaking at the inaugural function, Dr. R.K. Bhujbal, Vice Chancellor of Orissa University of Agriculture and Technology (OUAT), said, "The role of a teacher in a technical institution is of vital importance in view of the emerging challenges from new technology, changing industrial processes and advanced informatics. The teachers have to perform a variety of tasks pertaining to diverse roles of teaching, research, consultancy, administration, management, continuing education etc in the complex environment of changing economic and technological scenario. The need for each teacher to perform such multiple roles has been recognised in the National Policy on Education not only from the point of view of encouraging the performance of individual teachers, but also for promoting the quality of the institutional system as a whole. In this context, an effective Performance Appraisal Development System (PADS) for teachers is very important for academic/professional growth of teachers and expecting better contribution from them. Performance appraisal

system in technical education should not be taken as a punitive measure, but as a means of development".

After detailed discussions, the following recommendations were made : (i) The Performance Appraisal (PA) system developed should be based on typical culture & work environment of the institution so as to appropriately meet the goals & objective of the institution; (ii) Objectives of performance should be made very clear at the beginning; (iii) PA should be properly linked to the reward system; (iv) The Appraisal should be done by the students, colleagues & Head of the Department; (v) There should be an induction programme for the newly recruited teachers & staff to make them aware of PA; (vi) The whole activity may be first tried out on pilot-run basis in one department before final implementation; and besides PADS teachers should be encouraged to have the human qualities of compassion, love & goodwill to rise above the level of expectations.

Research on Dravidian Literature and Culture

The Andhra Pradesh Minister for Technical Education P.V. Ratnaiah called for an in-depth research on Dravidian literature and culture. He was inaugurating the 26th All India Conference on Dravidian Linguistics jointly organised here by Potti Sriramulu Telugu University, Dravidian University and two Dravidian Associations of Kerala in Hyderabad recently. He said the Dravidian culture was as ancient as

Harappan civilisation, but after the aggression by the Aryans, the culture had gradually disintegrated. Stating that Dravidian languages like Tamil, Telugu, Kannada and Malayalam had their own identity, he said they were often misconstrued as off-shoots of Sanskrit. Even intellectuals were of the view that Telugu was genetically related to Sanskrit. "It took considerable time to prove the independent existence of Dravidian family of languages, which only borrowed several words from Sanskrit," he said.

The Minister said the great heritage of Dravidians and Dravidian languages were not yet fully projected in Indian society and the world community at large and it was time to create a consciousness among the people in this regard. Towards achieving this goal, more research had to be conducted, he said.

He also regretted that Dravidian languages were endangered by the dominance of English in every sphere. Though English was essential in developing knowledge in science and technology, the native languages should not be neglected, he added.

Former IGNOU Vice-Chancellor Prof. Kulandai Swamy and Dravidian University Vice-Chancellor Prof. P.V. Arunachalam suggested creation of a common script for all the four major Dravidian languages, which had several similarities.

Translations of literary works from one language to other should be encouraged to facilitate people relish the literary values of these languages, they said.

Workshop on Teacher Education

A four-day Regional Workshop on Teacher Education for "Framing B.Ed. and M.Ed. Curriculum" was organised by Department of Education, Nagaland University, in collaboration with Nagaland College of Teacher Education, Kohima. The Workshop was attended by educationists, teacher educators and officials from Directorate of Higher & Technical Education, Directorate of School Education from Nagaland state and Resource Persons from the other states of North-Eastern Region.

Inaugurating the workshop, Mr. H. Chuba Chang, Minister of School Education, Government of Nagaland emphasised the need to take teaching profession seriously and with commitment. He referred to the wide gap between theory and practice in the existing educational system and expressed the need to narrow the gap and also to equip the teacher training institutions with necessary infrastructural facilities and other requirements as per the norms laid down by the National Council for Teacher Education (NCTE). The quality and credibility of a profession depended upon how the people were prepared for it, he said and made an appeal to those involved in Teacher Education to devote their utmost for an effective and adequate work culture and training of teachers with full commitment.

Dr. R.N. Bhattacharjee, Vice-Principal, Nagaland College of Teacher Education, in his welcome address, reflected the importance of teacher education in the state and the felt-need of the Workshop for the cause of teacher education.

Prof. S.K. Gupta, Director of

the Workshop highlighted the background and objectives of the Workshop. He dwelt at length on the emergent need to revise and strengthen the existing B.Ed. curriculum according to the need of the learners and society as well by introducing the new and emerging areas of knowledge in the light of the new guidelines and norms prescribed by NCTE. The courses like Value Education, Environmental Education, Information Technology and Computer Education alongwith practical activities particularly related to society should be given their rightful place. He stressed the need to provide activities and programmes in the curriculum which would lead to self study and self motivated learning of the students as well as for making the best use of library facilities.

Prof. Gupta noted that practice-teaching being a very vital component of the B.Ed. programme, there was a long felt-need of a practising or Demonstration school to be attached with a training college for uniform and comprehensive practice-teaching. He, therefore, expressed the urgent need of a demonstration Model School for this purpose and for a uniform system of evaluation. He also pointed out that at present, there was a disparity in the evaluation of theory and practical components, the former in numerical marking whereas the latter in grading system. Besides taking a decision in favour of a uniform system of evaluation, there was also the need for a continuous and comprehensive evaluation both in theory and practice/practicum with due weightage to external and internal evaluation.

One of the objectives of the Workshop was to frame the M.Ed. curriculum by incorporating need-based courses of study with particular emphasis on research in

education. The latest developments in Teacher Education, backlog of untrained teachers and supply of fresh trained teachers to schools in Nagaland were the issues to be deliberated upon in the backdrop of the present scenario.

Mrs. Banuo Z. Jamir, Commissioner & Secretary to the Govt. of Nagaland, Education Department, expressed her happiness on the organisation of such Workshop by Nagaland University for raising the quality of teacher education in the state.

The inaugural function concluded with a vote of thanks proposed by Mr. Y.S. Singh, the Programme-Co-ordinator of the Workshop.

In the working session discussions were held on the guidelines on curriculum and other related matters as laid down by NCTE. It was decided to follow these norms and guidelines so far as the course structure was concerned. Besides, course structures of other universities were also discussed. Subsequently, the course structures were finalized and details worked out by splitting the participants into different working groups.

Dr. A. Patton, Pro Vice-Chancellor, Nagaland University, in his valedictory address, made a critical analysis of the present educational system. True knowledge did not exist in the state of nature, he said. Instead, it had to be created, accumulated and imparted. He also made references to Education and development, and Education as an investment. For the first time in history, education was now engaged in 'foreseeing and preparing' men for the type of society, which did not yet exist. That now the mission of education had become to train 'unknown children for an unknown future', he said.

Tamil Varsity Convocation

The Minister for Tamil Development and HR and CE, Mr. M. Thamizhkudimagan, said there was a task before Tamil scholars to create a new world order by making their research findings to help humanity. He was delivering the address at the first general convocation of the Tamil University in Thanjavur recently. He said the research works of scholars who got D.Litt, Ph.D and M.Phil degrees in the first convocation of the University should be compiled and published. Only then the work of the scholars would become meaningful and complete. The scholars should create new literature, nurture our culture and carry out research to benefit people and bring about change, the Minister said.

The objective should be the development of the Tamil race, enhancing the reputation of Tamil Nadu and achieving unity of all Tamils in the world.

The Governor, Ms. M. Fathima Beevi, who is also the Chancellor of the University, conferred degrees on the scholars at the convocation. She conferred D.Litt degree on one person, Ph.D on 23 persons, M.Phil on 89 persons and Bachelor of Arts degrees on four persons.

The Vice-Chancellor, Dr. K. Karunakaran, said that the Central Government had allotted Rs. 2 crores in the ninth Five Year Plan period for the University and the first instalment had been received. The State Planning Commission had recommended that the Government allot Rs. 110 lakhs to the Department of Earth Sciences.

Internet and Education

Commonwealth Educational Media Centre for Asia (CEMCA), in collaboration with the Indira Gandhi National Open University (IGNOU), would be conducting

one week National Training Programme on Internet and Education on August 3-7, 1998, at New Delhi. The training programme will focus specifically on use and integration of internet in education. This practical exposure to internet will initiate skills in Internet browsing & accessing information, outlining HTML to design web pages, embedding of images & HTML links in the Web pages, creation of static and dynamic web pages, learning tools for automatic web page creation like WORD, FRONTPAGE etc and developing instructional design for learning through the internet. The faculty for the training programme would consist of experienced Instructional technologists and computer professionals from IGNOU and outside.

The intended participants for the training programme should preferably be employed in an academic institution/government agency/non-government organisation and have working experience on Windows based machines. Registrations from university administrators, policy makers in the educational organisations, academics in any discipline and extension educators (agriculture, health and other areas) are welcome. The registration fees for the training programme is Rs. 5000/- per participant. Further details may be had from the Commonwealth Educational Media Centre for Asia, 52, Tughlakabad Institutional Area, New Delhi-110 062, Fax : 6985208 e-mail:cemca@giasd101vsnl.net.in.

Genetics, Health and Disease

Guru Nanak Dev University, Amritsar, proposes to organise the Fourth International Symposium on Genetics, Health & Disease on 1-4 December, 1998. The theme of the Symposium is Frontiers of Human Genetics in 21st Century.

The topics proposed to be discussed at the symposium include : Developmental genetics; Preimplantation and prenatal diagnosis; Genetic basis of diseases; Genomic imprinting and epigenetic inheritance; Clinical genetics and cytogenetics; Genetic screening and genetic counselling; Molecular genetics of senescence, ageing & cancer; Genetics of sex differentiation; Genetics and ophthalmology; Genetic mutations, origin, detection and treatment; Genetic disease management, and foetal medicine; Molecular medicine and gene therapy; Scope of human genetics in developing countries; The Human Genome Project; Cloning and its implications; Ethical, legal and social aspects in human genetics; Population and evolutionary genetics; International collaborations in human genetics; and Self support groups and genetic diseases.

Further details can be had from Prof. Dr. Jai Rup Singh, Centre for Genetic Disorders, Department of Human Genetics, Guru Nanak Dev University, Amritsar-143 005, India.

IT and Libraries

To commemorate the birth anniversary of Dr. S.R. Ranganathan, the Ahmedabad Library Network (ADINET), INFLIBNET Centre & Space Applications Centre (SAC) propose to organise Librarians' Day-1998 and Seminar on Changing Role of Library, Information Professionals and Centre in Context to Information Technology on 22 August, 1998 at Ahmedabad.

A number of invited papers will be presented in the seminar.

Library Professionals, Academicians, Researchers, Students and other Individuals engaged in library and information services are expected to participate in the seminar.

Further details may be ob-

tained from Shri S.R. Thakore, Honorary Director, Ahmedabad Library Network (ADINET) C/o. INFLIBNET Centre, P.B. No. 4116, Opp. Gujarat University Guest House, Navrangpura, Ahmedabad-380 009.

AMU Sets up Law College

The Aligarh Muslim University (AMU) proposes to set up a law college and as a first step, the University is reported to have started a five-year BA (LLB) degree course. This was revealed by the Vice-Chancellor, Dr. Mahmoodur Rahman, in Aligarh recently. Unveiling his future plans, Dr. Rahman said that the University would start a degree

course in Fire Engineering and Animal Husbandry.

The AMU Vice-Chancellor said that the academic session of the University was back on the rails after a gap of several years. "After the examination, results have been declared and the new session will start on July 20," he stated, adding that "the declaration of the MBBS entrance examination test bore eloquent testimony to the transparent and error free admission policy."

With regard to the implementation of reservations for SC and ST, Dr. Rahman said that he had explained the university's stand to the UGC and it withdrew the proposed 30 per cent cut.

News from UGC

Countrywide Classroom Programme

Between 15th and 21st July, 1998 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programmes are telecast on the Doordarshan's National Network from 7.15 to 8.00 a.m. every day except on Saturdays & Sundays. These programmes are also telecast on Doordarshan's National Network from 6.00 to 7.00 a.m. four days a week i.e. on Tuesdays, Thursdays, Saturdays and Sundays. On DD2 University Video Lecture Courses will be shown at midnight between 0000-0030 hrs. and in the morning between 10 to 10.30 a.m. on Monday through Friday.

Hindi Programmes are being telecast on Mondays, Wednesdays & Fridays from 6.00 to 6.30 a.m.

15.7.98

"Transfer of Genetic Informa-

tion"

"Horticulture — Ornamental Gardening"

"Surreal Numbers"

"History & Literature — Common Meeting Grounds"

"Medical Instruments & Diagnosis-3 Biopotential Measuring Instruments"

UVLC

"Landscape Gardening"

16.7.98

"Question Time-70"

"Irrigated Horticulture — Fruit Culture"

"Geo-Engineering Studies in Coal Mines"

"Monopoly — Good or Bad"

"Jojoba-1 : A Future Plant"

UVLC

"The Indian National And Communal Problem"

17.7.98

"River Journal-1 : Historic Hoogly"

"Anar"

"Desert Locusts-2 : The Farmer's Foe"

"Archaic Scripts of the World"

"An Introduction to Archeology : Foot Prints from the Past"

UVLC

"Personality as Learned Behaviour Pattern"

18.7.98

"Esperanto"

"Polo-2 : The Modern Techniques"

"A Poet with a Difference"

UVLC

No Telecast

19.7.98

"Communication Skill-2 Story Telling"

"Classical Drums of India-2 The Language of Tala"

"Painting with Acrylic"

UVLC

No Telecast

20.7.98

"Fibonacci Numbers-1"

"Oscillations"

"Squint — A Serious Health Hazard"

"DNA Sequencing — The DNA Story-1"

"Personal Identification"

"A World of English-5 Group Discussions-1"

UVLC

"School of Sculpture"

"Carbohydrates-1"

21.7.98

"Vasundhara-3 Siberian Crane"

"Eye Problems & Prevention"

"Tribals of Chhotanagpur-7 The Grove and the School"

"Coffee Science-7 Pest Management in Coffee"

"Speech Communication — Individual to Public"

UVLC

"Students' Problems"

"Function of Several Variables-1"

Hindi Telecast

प्रातः 6.00 से 6.30 बजे तक

15.7.98

"महेश्वर-2"

16.7.98

"स्वच्छ जल पारिस्थितिकी"

"लाईकन"

17.7.98

"जलजीव संवर्धन"

"फैलता सहर प्रदूषण का"

20.7.98

"मैपिंग द डिकेड्स-1"

21.7.98

"मैपिंग द डिकेड्स-2"

existence itself.

3. The present generations should preserve for future generations natural resources necessary for sustaining human life and for its development.
4. The present generations should take into account possible consequences for future generations of major projects before these are carried out.

News from Abroad

Responsibilities Towards Future Generations

The General Conference of UNESCO on 12 November 1997 at its 29th session adopted the following Declaration on the Responsibilities of the Present Generations towards Future Generations
UNESCO Declaration

Article 1 - Needs and interests of future generations

The present generations have the responsibility of ensuring that the needs and interests of present and future generations are fully safeguarded.

Article 2 - Freedom of choice

It is important to make every effort to ensure, with due regard to human rights and fundamental freedoms, that future as well as present generations enjoy full freedom of choice as to their political, economic and social systems and are able to preserve their cultural and religious diversity.

Article 3 - Maintenance and perpetuation of humankind

The present generations should strive to ensure the maintenance and perpetuation of humankind with due respect for the dignity of the human person. Consequently, the nature and form of human life must not be under-

mined in any way whatsoever.

Article 4 - Preservation of life on Earth

The present generations have the responsibility to bequeath to future generations an Earth which will not one day be irreversibly damaged by human activity. Each generation inheriting the Earth temporarily should take care to use natural resources reasonably and ensure that life is not prejudiced by harmful modifications of the ecosystems and that scientific and technological progress in all fields does not harm life on Earth.

Article 5 - Protection of the environment

1. In order to ensure that future generations benefit from the richness of the Earth's ecosystems, the present generations should strive for sustainable development and preserve living conditions, particularly the quality and integrity of the environment.
2. The present generations should ensure that future generations are not exposed to pollution which may endanger their health or their

Article 6 - Human genome and biodiversity

The human genome, in full respect of the dignity of the human person and human rights, must be protected and biodiversity safeguarded. Scientific and technological progress should not in any way impair or compromise the preservation of the human and other species.

Article 7 - Cultural diversity and cultural heritage

With due respect for human rights and fundamental freedoms, the present generations should take care to preserve the cultural diversity of humankind. The present generations have the responsibility to identify, protect and safeguard the tangible and intangible cultural heritage and to transmit this common heritage to future generations.

Article 8 - Common heritage of humankind

The present generations may use the common heritage of humankind, as defined in international law, provided that this does not entail compromising it irreversibly.

Article 9 - Peace

1. The present generations should ensure that both they and future generations learn

to live together in peace, security, respect for international law, human rights and fundamental freedoms.

2. The present generations should spare future generations the scourge of war. To that end, they should avoid exposing future generations to the harmful consequences of armed conflicts as well as all other forms of aggression and use of weapons, contrary to humanitarian principles.

Article 10 - Development and education

1. The present generations should ensure the conditions of equitable, sustainable and universal socio-economic development of future generations, both in its individual and collective dimensions, in particular through a fair and prudent use of available resources for the purpose of combating poverty.
2. Education is an important instrument for the development of human persons and societies. It should be used to foster peace, justice, understanding, tolerance and equality for the benefit of present and future generations.

Article 11 - Non-discrimination

The present generations should refrain from taking any action or measure which would have the effect of leading to or perpetuating any form of discrimination for future generations.

Article 12 - Implementation

States, the United Nations system, other intergovernmental and non-governmental organizations, individuals, public and private bodies should assume their full responsibilities in promoting, in

particular through education, training and information, respect for the ideals laid down in this

Declaration, and encourage by all appropriate means their full recognition and effective application.



**SHRI LAL BAHADUR SHASTRI
RASHTRIYA SANSKRIT VIDYAPEETHA**
(Deemed University)
Katwaria Sarai, New Delhi-110016

ADMISSION NOTICE (1998-99)

Applications are invited for admission to the following Courses at Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeetha (Deemed University) for the academic year 1998-99. The degrees of the Vidyapeetha are equivalent to other degrees of Indian Universities established under UGC Act.

S NO.	COURSES	DURATION	EQUI-VALENCE	ELIGIBILITY
1.	Shastri / Shastri (Sammanit)	3 Years	B.A./ B.A. (Hons)	Madhyama / Prak Shastri or Senior Secondary / Intermediate (Sanskrit) with minimum 40% marks in aggregate.
Vocational Study - Computer, Hindi, Sanskrit, Courses available for Shastri students				
2.	Acharya	2 Years	M.A.	Shastri or B.A. (Sanskrit) three year degree course with minimum 40% marks
3.	Shiksha-Acharya	1 Year	M.Ed.	Shiksha Shastri / B Ed. with Sanskrit teaching in Second division & Acharya / M.A. (Sanskrit) in Second division
4.	Vidya-Varidhi	2 Years	Ph.D.	Acharya/M.A. (Sanskrit) minimum 55% marks in aggregate.
5.	Vachaspati		D Litt.	Candidate should have obtained Vidyavaridhi (Ph.D.) degree from Vidyapeetha or Rashtriya Sanskrit Sansthan or any other University established under UGC Act. 7 years before the date of Registration to Vachaspati Degree.

Diploma/Certificate courses in Prakrit, Yoga & Naturopathy, German, Japanese languages, Paurohitya, Jyotish, Sanskrit Sahitya and Sanskriti are also available.

The medium of instruction is SANSKRIT. Merit scholarship will be awarded to the students admitted in the above courses as per rules (Shastri @ Rs 200/-, Acharya @ Rs 250/-, Shiksha Acharya @ Rs 250/- and Vidyavaridhi @ Rs 600/- per month).

The special arrangement of scholarship, Hostel for Extraordinary students.

The application form and prospectus can be had from the office of the Vidyapeetha on or before 31st July, 1998 on payment of Rs.30/- in cash or by sending a crossed Demand Draft of Rs.45/- in favour of "SHRI LAL BAHADUR SHASTRI RASHTRIYA SANSKRIT VIDYAPEETHA", New Delhi-110016

The last date for receipt of duly filled in application form is 31st July, 1998 and with late fees upto 14 - 08 - 1998.

New Delhi - 110016

SANSAR CHAND
O.S.D. (Admn.) / REGISTRAR

BOOK REVIEW

Highly Polemic

R.P. Singh*

Sureshchandra Shukla and Rekha Kaul, Eds. *Education, Development and Underdevelopment*. New Delhi, Sage Publications, 1998. Pp. 308, Rs. 395/-.

Containing thirteen chapters besides the list of tables, index and introduction of contributors, the present publication holds out a political philosophy of education with the help of which one could explain development and underdevelopment. In the Introduction, Shukla and Kaul deliver their verdict, before evidence has been produced, that "the countries in the Third World have paid a heavy price for having uncritically taken the dominant ideology of development strategies for granted" (p 12). It is unimportant for the editors to explain why examples have been given from Bengal alone to establish the continuance of colonial legacy in India's educational policy or the case of Kishore Bharati and Eklavya of Madhya Pradesh presented to say that 'progressive' educational activity could be organised by a few young 'scientists' alone. Use of terms like 'progressive' and 'scientists' is quite meaningful because the failure of the scheme as perceived by Sadhna Saxena could then be partly attributed to governmental system and NCERT's counter pressure besides promotion of Hindu Dharma and communal messages through a Saraswati Shishu Mandir etc. (p.284)

*Former Dean (Research), NCERT, A-4/206, Kalkaji Ext., New Delhi-110 019.

One need hardly agree with the manner of presentation or the selection of papers for inclusion to say that the scholarship of the individual contributors is in no way under doubt. In themselves these papers carry their own messages. One must remember that the trouble with the scholarship is that it always defies generalisation. Each case it deals with has only a partial message. For example, when Bengal was under the complete sway of East India Company Ranjit Singh was emerging as the undisputed ruler of most of what is today's Panjab, Jammu, Himachal and even West Panjab which is part of Pakistan. Therefore to imagine that what could happen in Bengal then would be true of other parts of present day India too is doubtful to say the least.

As I said earlier individual papers carry their messages.

Poromesh Acharya brings out the 'multiple contradictions' inherent in the situation which Bengal underwent in the 19th century. These, Acharya points out could be identified as between British rulers and the Bengali *bhadralok*; the Bengali *bhadralok* and the Bengali labouring classes; and among British rulers and the Bengali *bhadralok* themselves. The message therefore is that one could establish any single contradiction

as the only real one and overlook the others. Interesting, is not it?

Sumanta Banerjee extends the frontiers of discussion started by Poromesh Acharya by bringing out the "hidden agenda behind *Sulabh Samachar*'s pedagogical intentions of reforming the cultural tastes of the 19th century Bengali populace". The real purpose, as brought out by Banerjee, lay in the apprehensions of losing out commercially to chap-books in a competitive publishing market. I particularly like the comparison between the core areas of intervention which *Sulabh Samachar* touched have their continuation in the primers used by the National Literacy Mission viz. economic, cultural and political. (p. 59)

How popular languages were marginalised and part of the history of these languages has been overtaken by some standardised language of the elites forms the content of Naresh Prasad Bhokta's chapter. The official records bring this thesis out very succinctly when Richey mentions a reference: Individuals who are proficient both in Sanskrit and English will be the person-qualified to compose elegantly or teach efficiently in Hindi (p. 72)

Krishna Kumar's paper (already published one) discusses how by the time Education Commission (1964-66) was set up. Gandhi's utility as a reference point for the determination of educational policy had ended. (p. 90) He carries further his argument (p. 94) by pointing out how the eating of pulses was ignored in preference to eggs, meat and milk which the poor can hardly afford.

Jandhyala B.G. Tilak's paper deals with expenditure on education in which why education "becomes a highly vulnerable sector under deteriorating economic conditions" is sought to be explained. (p. 102) In most countries however expenditure per student in primary education as a ratio of GNP per capita has increased as compared with higher education. (p. 129) Sreemati Chakrabarti presents an excellent case study of Chinese higher education which faces the ultimate problem of modernisation in the context of limited resources. Changing times have resulted in lowering of moral standards among the academics, shift in the choices of subjects of study and lack of open discussion in closely guarded campuses surrounded by insurmountable walls etc. (p. 156) The scenario painted by Chakrabarti is not very encouraging/inviting.

Rekha Kaul's paper is all about the consequences of commercialisation of education in urban areas and its monopolisation by influential caste groups. The dynamics of disorder needs to be read with care. (p. 171)

Binod Khadria's paper deals with the problem of brain drain and how our IITs are producing talent for export. However these NRIs are in fact bailing the Indian economy through remittances and deposits in Indian banks. But the above two realities are not interrelated phenomena. For him 'the challenge lies in removing contradictions between excellence in higher education and the state of the underdogs' (p. 197) Once it is done the real returns of human capital or its involvement will follow.

Mohammad Talib's paper has a message for those who would listen. "Education for the oppressed should learn to enrich

and nourish itself from the experience and strivings of the oppressed." (p. 208)

Padma Velaskar discusses the problems the dalits have faced in Maharashtra in receiving education. While Phule and Ambadekar brought out to the fore the potential of education as an agent of change, (p. 222) the fact remains that the dalits are disenchanted with it. (p. 211) This has happened largely because of ill-treatment of the non-dalits towards them besides labelling them with derogatory qualities: "undeserving, stupid, indolent, spoilt, dirty, opportunistic, pampered, pushy, aggressive, undisciplined, cunning and unruly" etc. (p. 227) Therefore the message is "in a general situation which appears fatal to larger dalit interest, there is need to recover the counter hegemonic potential of education." (p. 234)

M Shatrugna in his paper 'Literacy as Liberation' discusses the relationship between education

and social struggle for a cause. It carries the message that "government may ignite a movement initially, its class/caste interests would not allow it to support it for long." (p.263)

The last paper is by Sadhna Saxena on the Hoshangabad experiment. Her discussion as an insider is fairly objective. The message she attempts to give is "Middle-class activists like us, though very impressed by the slogans of 'learning from the people' are often strongly programmed to think in exactly the opposite way." (p.295) Her write-up illustrates her after thought.

A highly polemic book by those who while enjoying all the benefits of middle class condescend at times to feel concerned about the fate of the poor and oppressed in a language which they share with elite for their own possible identification with those who have already arrived. To be read with extreme care.

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—davy 1151(2)98

REGISTRAR

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities

AGRICULTURAL & VETERINARY SCIENCES

Entomology

1. Datpate, Chandrakant Bhunrao. Breeding of silkworm (*Bombyx mori* L) for better economic traits in Marathwada region. (Dr B K Dhanorkar), Department of Entomology, Marathwada Agricultural University, Parbhani.
2. Kanwar, Purushottam Ramnivas. Relative toxicity of some synthetic insecticides and population studies on parasite and predator of safflower aphid. (Dr G D Jadhav), Department of Entomology, Marathwada Agricultural University, Parbhani.

Plant Breeding

2. Murlidhar, Patil Avinash. Genetic architecture of yield and yield contributing characters in safflower. (Prof J K Purkar) Department of Cytogenetics and Plant Breeding, Mahatma Phule Krishi Vidyapeeth, Rahuri

Sericulture

1. H L Ramesh. Induction of variability for important morpho-economic traits in mulberry. (Dr Munurajappa), Department of Sericulture, Bangalore University, Bangalore.
2. Jothirmayala, D. Modulations in the gonadal metabolic activities of silkworm (*Bombyx Mori* L) in relation to seasonal variations. (Dr D Bharathi), Department of Sericulture, Sri Padmavati Mahila Vishwavidyalaya, Tirupati.
3. Kalle, Arutha Priyakanru. Biochemical studies on the midgut protease of the silkworm, (*Bombyx mori* L). (Dr S K Sarangi) Department of Sericulture, Bangalore University, Bangalore

BIOLOGICAL SCIENCES

Botany

1. Alivelu Mangamma, N. Microbial ecology of tank waters, muds and ecotonal soils of Karimnagar District Andhra Pradesh, India. (Dr C Manohara Chary) Department of Botany, Osmania University, Hyderabad.
2. Ansari, Habiburrahman. Effect of some phytohormones and NPK on growth and metabolism of mustard. (Dr Nafees Ahmad Khan) Aligarh Muslim University, Aligarh.
3. Manglik, Priti. Physiological studies on flowering and pod shattering in soybean varieties. (Dr K N Guruprasad), Department of Life Sciences, Devi Ahilya Vishwavidyalaya, Indore
4. Pandey, Nirmala. Structure and function of an alpine meadow under grazed and controlled conditions. (Prof A B Bhatt) Hemwati Nandan Bahuguna Garhwal University, Garhwal.
5. Paradkar, Nagorao. Selection of herbicides for economic weed management in direct seeded Upland Rice (*Oryza Sativa* L). (Dr M Oamachan) Department of Botany, Rani Durgavati Vishwavidyalaya, Jabalpur.
6. Shashikumar M S. Palaeofloristic studies of lower Gondwana flora. (Dr Shripad N Agashe) Department of Botany, Bangalore University, Bangalore.
7. Shuvashankar, B. Embryological studies in some members of heliantheae (*Asteraceae*). (Dr B H M Nijalingappa) Department of Botany, Bangalore University, Bangalore.

8. Singh, Amarjit. Effect of crop residue management on carbon turnover and soil nitrogen dynamics. (Dr. Balwant Singh), Department of Botany, Kurukshetra University, Kurukshetra.

9. Verma, Neeraj. Purification and properties of a virus causing yellow mosaic on petunia (*petunia hybrida* vilm). (Dr S Q A Naqvi) Department of Botany, Aligarh Muslim University, Aligarh.

10. Yadavakrishtachar, Raghavendra Katti. Cytochemical characterization of male sterility in two lines of gms. pigeon pea. (Dr R R Hegde) Department of Botany, Karnatak University, Dharwad.

Marine Sciences

1. Bhaskaran, V. Studies on the impact of DDT and BHC on some physiological aspects of *Penaeus Indicus* H Milne Edwards. (Dr A D Diwan), Department of Marine Sciences, Cochun University of Science and Technology, Cochun
2. G Nandakumara. Biology, population characteristics and fishery of the speckled shrimp *metapenaeus monoceros* (Fabricius, 1798) along the Kerala Coast. (Dr R Damodaran), Department of Marine Sciences, Cochun University of Science and Technology, Kochi
3. Pillai, Bindu R. Studies on osmoregulation in *metapenaeus monoceros* (Fabricius). (Dr A D Diwan), Department of Marine Sciences, Cochun University of Science and Technology, Cochun.

Microbiology

1. Menon, P K. Study of microbial pathogenesis in multiple drug resistant salmonella typhi. (Dr Ragini Macaden), Department of Microbiology, Bangalore University, Bangalore.

Zoology

1. Bahuguna, Soniya. Effect of oral administration of some plant materials on the fertility of female albino rats. (Dr S P Singh), Department of Zoology, Hemwati Nandan Bahuguna Garhwal University, Garhwal
2. Bajpai, Bhakti. Study on tannin acyl hydrolase (EC 3.1.1.20) produced by some microorganisms. (Dr Shridhar Patil) Department of Life Science, Devi Ahilya Vishwavidyalaya, Indore.
3. Chakravarty, Alo. A statement and examination of three paradoxes of set theory. (Dr Pabitra Kumar Roy) Department of Zoology, University of North Bengal, West Bengal.
4. Chattopadhyay, Debajyoti. Genetic approach to some human diseases. (Dr Sudhansu Kumar Ghosal), Department of Zoology, University of Burdwan, Burdwan.
5. Gautam, Parikshit. Ecological studies of bird communities in proposed submergence area of Narmada Sagar Project Madhya Pradesh, India. (Dr A H Musavi) Aligarh Muslim University, Aligarh.
6. Jaiswal, Shree Prakash. Seroepidemiological studies on hepatitis viruses. (Dr D S Chitrus), Department of Microbiology and Immunology, Devi Ahilya Vishwavidyalaya, Indore.
7. K Madhu. Comparative biochemical studies of diapause and non-diapause pupae of tasar silkworm *Antheraea mylitta* D. (Prof A Purushotham Rao) Department of Zoology, Kakatiya University, Warangal.

8. Kesh, Asit Baran. Effect of antidotes on growth, sexual maturity and reproduction of an Indian freshwater teleost, *heteropneustes fossilis* (Block) treated with lead (pb) and cadmium (cd). (Dr Gour Mohan Sinha), Department of Zoology, University of Burdwan, Burdwan.

9. Roy, Tapas Kumar. Efficacy of melatonin in the regulation of annual testicular events in adult male roseringed parakeets (*Psittacula krameri*). (Dr Saumen Kumar Maitra), Department of Zoology, University of Burdwan, Burdwan.

10. Saha, Narayan Chandra. A taxonomic and biological study on the biting midges (Diptera: Ceratopogonidae) of the Damodar Valley area, India. (Dr Sujit Kumar Dashgupta and Dr Prasanta Kumar Chaudhuri), Department of Zoology, University of Burdwan, Burdwan.

11. Savitha, N. Bio-chemical and genetic studies in hypoxic and hypothermic injury in experimental rats and human beings. (Dr T Venkatesh), Department of Biochemistry, Bangalore University, Bangalore.

12. Yohanan T M. Biology and fishery of Indian mackerel, *rastrelliger kanagurta*, (Cuvier) along the Malabar Coast. (Dr U C Abrurahaman), Department of Zoology, University of Calicut, Calicut.

EARTH SYSTEM SCIENCES

Environmental Studies

1. Somen, C K. Water relations growth and gas exchange in *acacia auriculiformis* under experimental and natural conditions. (Dr Jose Kallarackal), Department of Environmental Studies, Cochin University of Science and Technology, Kochi.

Geology

1. Biswas, Pradip Kumar. Statistical and geostatistical modelling of the mine block, Rakha copper deposit. (Dr B C Sarkar), Department of Applied Geology, Indian School of Mines, Dhanbad.

2. Gurlingappa, Chandankaria Ganapathu. An integrated approach to groundwater studies of Kumadvati river lower basin Karnataka state, India. (Dr B K Wodeyar), Department of Geology, Karnatak University, Dharwad.

Meteorology and Atmospheric Science

1. Bindu, G A. Meteorological aspects of the environment of Cochin. (Dr K G Anilkumar), Department of Meteorology and Atmospheric Science, Cochin University of Science and Technology, Kochi.

ENGINEERING SCIENCES

Civil Engineering

1. Chattopadhyay, Mrityunjay. Local scour and sediment transport below sluice. (Dr S S Chatterjee), Department of Civil Engineering, University of North Bengal, Darjeeling, West Bengal.

Computer & Systems Sciences

1. Behari Lal, Vinod. Some non-linear stochastic models of innovation diffusion. (Prof Karmeshu), Department of Computer and Systems Sciences, Jawaharlal Nehru University, New Delhi.

2. Jain, Naveen Kumar. Hierarchical censored production rules (HCPRs) system : A generalized knowledge representation scheme. (Prof K K Bharadwaj), Department of Computer & Systems Sciences, Jawaharlal Nehru University, New Delhi.

Electronics

1. Subba Rao, Kakaria. Optimum signal design for radar and spread spectrum applications. (Dr P S Moharrir), Department

of Electronics, Osmania University, Hyderabad.

Mineral Engineering

1. Yadav, Vidyand Prasad. Physico-chemical processing of glauconitic sandstone. (Dr T Sharma), Department of Mineral Engineering, Indian School of Mines, Dhanbad.

Photonics

1. Harilal S S. Optical emission diagnostics of laser produced plasma from graphite and YB $a_2Cu_3O_7$. (Dr C P Girjavalabhan), Department of Photonics, Cochin University of Science and Technology, Kochi.

2. Xavier, Edwin. Studies on electrical and thermal properties of certain selected photonic materials. (Dr C P Girjavalabhan), Department of Photonics, Cochin University of Science and Technology, Kochi.

Production Engineering

1. Narang, Gurmeet Singh. Investigations in some critical issues in value adding management. (Dr A K Chitlay), Department of Technology, Devi Ahilya Vishwavidyalaya, Indore.

Rubber Technology

1. Claramma N M. Studies on prevulcanization of rubber latex with special reference to influence of storage and after treatments on properties of films. (Dr N M Mathew), Cochin University of Science and Technology, Cochin.

2. Thomas, K T. Molecular breakdown of different forms of natural rubber and its influence on properties of their mixes and vulcanizates. (Dr N M Mathew), Department of Technology, Cochin University of Science and Technology, Kochi.

Technology

1. Sailas Benjamin. Lipase production by *candida rugosa*. (Dr Ashok Pandey), Department of Technology, Cochin University of Science and Technology, Kochi.

MATHEMATICAL SCIENCES

Mathematics

1. Ghatak, Baidyanath. Studies in separation and covering axioms and functions over topological and bitopological spaces. (Dr Abhoy Pada Baisnal), Department of Mathematics, University of Burdwan, Burdwan.

2. Kothari, Radha Krishna. Geometry of Kachler and tachibana spaces. (Dr A K Singh), Department of Mathematics, Hemwati Nandan Bahuguna Garhwal University, Garhwal.

3. Uraleagaddi, Suguna Basavara. Some topics in univalent functions. (Dr S M Sarangi), Department of Mathematics, Karnatak University, Dharwad.

Statistics

1. Babu Raj C. Analysis of some bulk service queueing systems. (Dr M Manoharan), Department of Statistics, University of Calicut, Calicut.

2. Joseph K X. Mathematical and statistical studies of some stochastic models in reliability. (Dr M Manoharan), Department of Statistics, University of Calicut, Calicut.

3. Raju N. Contributions to stochastic models and their analysis - with special reference to some inventory models. (Dr K Kumaran Kutty), Department of Statistics, University of Calicut, Calicut.

MEDICAL SCIENCES

Pharmacy

1. Yeole, Pramod Govind. Phytochemical studies of differ-

ent Indian varieties of chilli (*Capiscum*). (Dr A N Saeji), Department of Pharma Science, Nagpur University, Nagpur.

PHYSICAL SCIENCES

Applied Chemistry

1. Mayadevi S. Studies on some new transition metal complexes of the schiff bases derived from quinoxaline - 2 - carboxaldehyde. (Dr K K Mohammed Yusuff), Department of Applied Chemistry, Cochin University of Science and Technology, Kochi.

Biochemistry

1. Anand, Monika Tola. Biochemical and immunological studies on lipophosphoglycan (LPG) of *Entamoeba histolytica*. (Prof Alok Bhattacharya), Jawaharlal Nehru University, New Delhi.

2. Harshwardhan P Bal. Mammalian ribonuclease - based immunotoxins for targeted therapy : A comparative study. (Dr Janendra Kumar Batra) Department of Biochemistry, Jawaharlal Nehru University, New Delhi.

3. Jain, Renu Kumari. Mechanism of excitotoxicity : A comparative study of receptor interactions of glutamate and ODAP, the lathyrus sativus neurotoxin. (Prof S L N Rao) Department of Bio-Chemistry, Osmania University, Hyderabad.

4. Josey, George. Assessment of cancer causation by industrial chemicals. (Dr Ramadasan Kuttan) Department of Bio Chemistry, University of Calicut, Calicut.

5. Srinivas, M R S. Microbial production of alpha-galactosidase. (Dr B K Lonsane) Department of Biochemistry, University of Mysore, Mysore.

6. Subbayya, Naik Ramachandra. Studies of phytopathogenic fungallert in rhizoctonia bat aticola (Drub) butler. (Dr B M Swamy) Department of Bio-chemistry, Karnatak University, Dharwad.

7. Wangkhem Indira Devi. Effect of some micronutrients on the physiological and biochemical studies of (*Brassica Oleracea Var Capitata L*). (Dr G A Shantibala Devi) Department of Life Science, Manipur University, Imphal.

Chemistry

1. Konar, Biswajit. Seperation and preconcentration of metal ions using chelating exchangers. (Dr Sukalyan Basu), Department of Chemistry, University of Burdwan.

2. Naga Padma, B. Synthesis, structural studies and biological activity of transition metal complexes with some 2 (IH) quinolone derivatives. (Prof M C Ganekar) Department of Chemistry, Osmania University, Hyderabad.

3. Shanushohara, Ashok Prataprai. Synthesis and antimicrobial study of medicinally important compounds. (Dr N K Undavia) Reader, Department of Chemistry, Bhavnagar University, Bhavnagar.

4. Sultana, Azma. Synthesis, modification, characterization and catalysis over ZSM-5 zeolites. (Dr S Narayanan), Department of Chemistry, Osmania University, Hyderabad.

5. Vora Jabali Jayakrishna. Equilibrium and analytical studies on some heterochelates of transition and inner transition elements with ligands containing oxygen, nitrogen and/or sulphur donor atoms. (Dr J D Joshi), Department of Chemistry, North Gujarat University, Patan.

Physics

1. Basavarneppa, Kalkoti Gururaj. Spectroscopic studies of some polyatomic molecules. (Dr M A Shashidhar), Department of Physics, Karnatak University, Karnatak.

2. Dubey Archana Harishchandra. Certain applications of ferromagnetic particles. (Prof R V Mehta), Department of Physics, Bhavnagar University, Bhavnagar.

3. Padam Singh. Application of U235 (n, β) reaction for the measurement of trace quantities of Uranium in some liquids. (Prof D S Srivastava) Aligarh Muslim University, Aligarh.

4. Pandappa, Giraddi Timmappa. Energy transfer and quenching studies in some organic liquid scintillators. (Dr G C Chikkur) Department of Physics, Karnatak University, Dharwad.

5. Pillai, P K. Fabrication of CuIn Se2/CdS thin film solar cells by chemical bath disposition technique and characterization. (Dr K P Vijayakumar), Department of Physics, Cochin University of Science and Technology, Kochi.

6. Rodrigues, Nelson. Investigation of dielectric and elastic properties of selected dielectric ceramics and oxide glasses. (Dr Jacob Philip), Department of Instrumentation, Cochin University of Science and Technology.

7. S Thulasi Raman. Studies on atmospheric aerosols in a coastal industrial environment using a ground based multiwave length solar radiometer. (Dr K Niranjan), Department of Physics, Andhra University, Waltak.

8. Saha, Gopal. Studies on low and high energy particles in cosmic ray extensive air showers observed in the earth's atmosphere. (Dr N Chaudhury) Department of Physics, University of North Bengal, West Bengal.

9. Verma, Smita. Theoretical studies on the deformation induced electronic excitations in alkaline earth oxide crystals. (Dr B P Chandra and Dr M H Ansari) Department of Physics, Rani Durgavati Vishwavidyalaya, Jabalpur.

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PRINCIPAL INVESTIGATOR

WANTED

Applications are invited from the eligible candidates for the following vacancies in the SENIOR COLLEGE (Granted) run by ADARSH EDUCATION SOCIETY'S COLLEGE HINGOLI, DIST. PARBHANI. The Application duly completed in all respect should reach the undersigned within 15 days from the date of publication of the advertisement at the college address.

1. LECTURER IN POL. SCI. — One post, full time, S.C. (Women)
2. LECTURER IN DAIRY SCI. — One post, full time, S.T. (TV Advertisement).

EDUCATION QUALIFICATION :

A) M.Sc./M.A. in the relevant subject with at least 55% marks or its equivalent grade and

good academic record, besides above qualification. He should have cleared SET or NET Examination.

PAY SCALES :

Pay Scales and other allowances as per the State Government & S.R.T.M. University's Rule.

NOTE :

1. Eligible candidates should submit their application through proper channel.
2. Alongwith application should attach certified Xerox Copies of S.S.C., Degree, P.G. Certificates & Marks Memos, Caste & Character etc. essential and one copy to be sent to the University.
3. If reserve category candidates are not available the post will be filled by other reserve category candidates.
4. Application complete in all respect should reach the PRINCIPAL, ADARSH EDUCATION SOCIETY'S COLLEGE HINGOLI-431 513, DIST. PARBHANI.

PRINCIPAL

PANJAB UNIVERSITY (CHANDIGARH)

(Corrigendum to Advt. No. 4/98)

1. The advertisement insofar as it relates to posts of Lecturers in Physics-7 and Gandhian Studies-1 be treated as cancelled.
2. All the five posts of Lecturers in Chemistry will be treated as open posts (three temporary but likely to be made permanent).

A.P.S. UNIVERSITY, REWA (M.P.)

ADMISSION NOTICE

M.Sc. Biochemistry

(Course run under Self Supporting Programme)

Eligibility : B.Sc. (With Chemistry/Biochemistry), 50% in theory papers, 45% for SC/ST.

Last Date for Application : July 31, 1998

Date for Entrance Test : August 3, 1998

Application form and Information Bulletin available from Professor-in-Charge Biochemistry on payment of Rs. 200/- by hand or Rs. 225/- by post (Draft in favour of Registrar, A.P.S. University, Rewa, payable at Rewa).

(Dr. R.S. Pandey)
Registrar

MAHATMA GANDHI UNIVERSITY

Priyadarshini Hills, P.O.

Kottayam-686 560

NOTIFICATION

Applications in the prescribed form are invited from qualified candidates for appointment to the following posts in the University.

S. No.	Name of post	No. of posts	Scale of pay in Rs.	Specialisation if any	Reservation if any
1.	Reader (School of Social Sciences)	1	3700-5700	Philosophical Analysis and Social Theory	One post reserved for Ezhava/Thiyya/Billava Community.
2.	Reader (School of Social Sciences)	1	3700-5700	Political Economy and Cultural Dynamics	
3.	Lecturer (School of Pure & Applied Physics)	1	2200-4000	Physics	Reserved for SC
4.	Lecturer (School of Biosciences)	1	2200-4000	Micro Biology	Reserved for Ezhava/Thiyya/Billava
5.	Lecturer (School of Biosciences)	1	2200-4000	Bio-physics	Open

Qualifications :

For all posts qualifications is as prescribed by the UGC.

Age limit :

Reader : Not more than 45 years as on 1.1.1998.

Lecturer : Not more than 40 years as on 1.1.1998. (Usual relaxation in age limits is admissible to candidates belonging to SC/ST and OBC).

Application fee : Reader — Rs. 200/-, Lecturer — Rs. 100/-.

(SC/ST candidates are exempted from payment of application fee)

Last date for receipt of application : 27.7.1998.

Application forms can be had from the Store Keeper, University General Store on production of pay-in-slip for Rs. 25/- (Rupees twenty five only) remitted in the S.B.T.

in the current account of the University or in the Govt. Treasury under the Head of account "8658-00-102-96-05-GU Suspense" Those who wish to get the application form by post shall enclose a self-addressed stamped envelope worth Rs. 4/-. For further details see the instructions to candidates issued along with the application form.

Prof. (Dr.) Jose James
REGISTRAR



IGNOU

INDIRA GANDHI NATIONAL OPEN UNIVERSITY

Maidan Garhi, New Delhi-110058

CERTIFICATE PROGRAMME IN DISASTER MANAGEMENT

Admission Notice for January 1999 Session

Applications are invited from students interested in completing a Professional Certificate in Disaster Management through distance learning.

Duration : 6 months minimum & 2 years maximum. Eligibility : 10+2 or its equivalent. Fees : Rs. 1000/- Age : No bar

This programme will be of use to:

- Govt. Employees, NGO Functionaries, Armed Forces, Police and Paramilitary Officials, Students, etc.
- Professionals - Foresters, Scientists, Geologists, Meteorologists, Doctors, Teachers, Planners, Engineers, Ecologists, etc.

Medium of Instruction: English. However, learners have the option of writing their assignments and examination in Hindi.

Application Form along with the Handbook & Prospectus can be obtained from Director, Student Registration and Evaluation Division (SR&E), IGNOU, Maidan Garhi, New Delhi-110068, in person, on payment of Rs. 10/- in cash or through post by sending an IPO or Demand Draft of Rs. 25/- drawn in favour of IGNOU payable at New Delhi.

Filled in Application Forms are to be sent to:

The Programme Coordinator (CDM), School of Social Sciences, Room No. 6, Block No. 5, IGNOU, Maidan Garhi, New Delhi-110068.

Late and incomplete filled-in forms without copies of required certificates shall be summarily rejected. No correspondence will be entertained in this regard.

DIRECTOR,
Student Registration and Evaluation Division



भारतीय विदेश व्यापार संस्थान INDIAN INSTITUTE OF FOREIGN TRADE

Invites Applications for

FACULTY POSITIONS

with challenging Teaching and Research Opportunities

We are the premier academic institution in international trade and business under the Ministry of Commerce. We may be looking for you if you have requisite qualifications and experience as laid down by the University Grants Commission for the posts of **PROFESSOR/ASSOCIATE PROFESSOR (READER)/ASSISTANT PROFESSOR (LECTURER)**.

The areas of disciplines are:

- | | |
|-------------|---------------------------|
| • Economics | • Statistics |
| • Commerce | • Business Administration |

The required areas of specialisation are:

- | | |
|--|---------------------------------|
| • Marketing | • International Marketing |
| • Strategic Management
Decision Making | • Quantitative Methods in |
| • Management Finance and Accounting | • International Finance |
| • International Economics with
Econometrics | • International Business
Law |

Candidates possessing MBA degree with appropriate corporate experience will be preferred in management areas. Candidates may be selected at any level based on their qualifications and experience. Possibilities of career progression exist, as the Institute is constantly growing.

- Corporate professionals, International business facilitators, government officials, and
- Faculty members from Business Schools, Universities and Research institutions who are or may be on sabbatical, are welcome to apply.

Placement will be on contract/deputation basis for one to three years in UGC scales of pay (expected to be revised) and allowances as applicable to Central Government employees. Contracts may be extended based on performance.

Limited residential accommodation may be made available.

Choice of candidates may not be necessarily restricted to the candidates who formally apply. Academic qualifications and experience required may be relaxed in case of otherwise highly suitable candidates.

Rush your application giving details of age, educational qualifications, area of specialisation, experience, publications, etc. to Shri Nirmal Mangal, Director (Admn. & Fin), latest by **7th August, 1998.**

INDIAN INSTITUTE OF FOREIGN TRADE

IIFT Bhawan, Qutab Institutional Area, New Delhi - 110 016

Fax: 011-6853956, 6867851, 6867841 E-Mail: dgift@nde.vsnl.net.in

The Global Edge



IGNOU

INDIRA GANDHI NATIONAL OPEN UNIVERSITY

TOURISM STUDIES

IGNOU has operationalised 151 Study Centres all over the country in the destination zones to impart Tourism education through Distance learning. A special feature of these programmes is that students can study as per their own pace without effecting their work and duties. Hence, they are also beneficial for personnel at all levels employed in the tourism industry for improving their skills. The university follows a multi-media approach for teaching. Admissions to the following programmes for January, 1999 session are open and Student Handbook and Prospectus is available at IGNOU Regional Centres. There is no age bar and they are offered in both Hindi and English medium.

1. Certificate Programme in Tourism Studies (CTS)

<i>Duration</i>	: Six months
<i>Fee</i>	: Rs 700/-
<i>Eligibility</i>	: Minimum qualification 10+2 or its equivalent.
<i>Courses :</i>	
TS-1	: Foundation Course in Tourism
TS-2	: Tourism Development Products, Operations and Case Studies

2. Diploma in Tourism Studies (DTS)

<i>Duration</i>	: One year
<i>Fee</i>	: Rs 1,700/-
<i>Eligibility</i>	: Minimum qualification 10+2 or its equivalent
<i>Core Courses :</i>	
TS-1	: Foundation Course in Tourism
TS-2	: Tourism Development Products, Operations and Case Studies
TS-3	: Management in Tourism
<i>Elective and Project</i>	: Student to offer any one of the following
TS-4	: Indian Culture Perspective for Tourism
PTS-4	: Project in Indian Culture Perspective for Tourism
TS-5	: Ecology, Environment and Tourism
PTS-5	: Project in Ecology, Environment and Tourism
TS-6	: Tourism Marketing
PTS-6	: Project in Tourism Marketing

3. Advanced Diploma in Tourism Studies

Open to all those who are registered or have done DTS from IGNOU

4. Bachelor in Tourism Studies (BTS)

<i>Duration</i>	: Three Years
<i>Fee</i>	: Rs 1,000/- in the first year
<i>Eligibility</i>	: Minimum qualification 10+2 or its equivalent

Comprising courses from TS-1 to TS-6 from Tourism Studies programme + other courses from Social Sciences, Sciences and Management.

LAST DATE FOR ADMISSIONS : 31.8.98

ADDRESSES OF IGNOU REGIONAL CENTRES: 268-C, Pitru Ashish, Near Avani Flats, Ishwar Bhawan Road, Navrangpura, AHMEDABAD-380009 Directorate of Collegiate Education Premises, P.B. No 5324, G.P.O., Seshadri Road, BANGALORE-560001 E-7/62, Arera Colony, Near Bus Stop 11, SBI Colony, BHOPAL-462016. 222/1, Shastri Nagar, Unit-4, BHUBANESWAR-751001 Bikash Bhawan, 4th Floor, Bidhan Nagar, North Block, Salt Lake, CALCUTTA-700081. Mamangalam, Palamvatom P.O., COCHIN-682025 52, Tughlakabad, Near Batra Hospital, NEW DELHI-110062 28, South Boag Road, (Chevalier Shwaji Ganeshan Road), T. Nagar, CHENNAI-600017 H No 3-6-740, Street No. 12, Himayat Nagar, HYDERABAD-500029. SB-12, Bapu Nagar, Bhavani Singh Marg, JAIPUR-302015. Old Govt. College Campus, Railway Road, KARNAL-132001 B-1/33, Sector H, Aligarh, LUCKNOW-226020 176-A, Patliputra Colony, PATNA-800013. Symbiosis Premises, Senapati Bapat Road, PUNE-411004 Sunny Lodge, Nongthymmai, Nongshilliang, SHILLONG-793014 Navagiri Road, 1st By-Lane, Chandmari, GUWAHATI-781003. Willys Park, Near A.I.R. Station, P.O. Chauria Maidan, SHIMLA-171004 A-24, Durga Chambers, Dist. Centre, Raj Nagar, GHAZIABAD. SPMR College of Commerce, Canal Road, JAMMU